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REPORT

# REPORT

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ON

# EDUCATION IN EUROPE,

TO THE

## TRUSTEES

OF THE

## GIRARD COLLEGE FOR ORPHANS.

BY

ALEX. DALLAS BACHE, LL.D.
PRESIDENT OF THE COLLEGE.

*PHILADELPHIA:*
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1839.

Entered, according to the Act of Congress, in the year 1839, by
A. D. BACHE,
(*in behalf of the Trustees of the Girard College for Orphans,*)
in the Clerk's Office of the District Court of the United States, in and for the Eastern District of Pennsylvania.

# PREFACE.

The origin and nature of the following Report, which has been ordered to be printed by the Trustees of the Girard College for Orphans, will be best explained by prefixing to it the instructions directing the tour, during which the information embodied in it was collected. These instructions were drawn up by the Committee on Scholastic Education,* who were charged with this duty by the Board of Trustees.

*Board of Trustees of the Girard College for Orphans,*
*September* 19, 1836.

A. D. Bache, Esq.,
*President of the Girard College for Orphans,*
*Philadelphia.*

Dear Sir:—I enclose a copy of a resolution, passed by this Board on the 19th July last, authorizing you to visit Europe, under the instructions of the Committee on Scholastic Education. I also enclose, in quadruplicate, a commission from the Board, certified by the Mayor of Philadelphia, stating the objects of your mission, and asking the aid of all friends of science to facilitate your inquiries. The financial arrangements for your salary and expenses are, as you know, com-

* Consisting of Nicholas Biddle, *Chairman*, W. M. Meredith, J. M. Keagy, J. C. Biddle, S. V. Merrick, and W. W. Haly, Esq'rs. The Board of Trustees has since had to regret the decease of Dr. J. M. Keagy and J. C. Biddle, Esq., two of its most attentive and efficient members.

Classed 1-21-32 [illegible]

pleted. It remains only for the Committee to add their instructions for your government.

Your familiarity with the subject of education, and your personal acquaintance with the views of the Board, of which you were a member, supersede the necessity of any detailed explanations in regard to the purposes of your voyage, or the best means of accomplishing them; and the Committee will, therefore, confine themselves to such general instructions as may regulate the course of your movements and inquiries.

The Board of Trustees are charged by the City of Philadelphia to prepare a system of instruction for the Girard College for Orphans. For this purpose they are anxious to have the most accurate information of the best means used for the same purpose elsewhere, and you have been selected to obtain it. Your object, then, is to visit all establishments in Europe similar to the Girard College; and as these are found principally, if not exclusively, in England, Scotland, Ireland, France, Belgium, Holland, Switzerland, Italy, Austria, Prussia, and the rest of the states of Germany, these countries will form the natural limits of your tour. Accordingly, all institutions in each of those countries resembling the Girard College, or any others which promise to afford useful information in organizing it, you will see and examine. Your own reflection will readily suggest the points of information desired; and I will, therefore, merely enumerate a few, which may serve as a basis for your own extensive investigation. Of every establishment visited by you, we should wish to know—

1. Its history, general administration, and the nature and extent of its funds.

2. Its interior organization and government; the names, titles, and duties of all the persons employed in it.

3. Who are admitted to it, and the forms and terms of admission, and where it is professedly for the education of orphans who are considered as orphans.

4. The number and classification of the scholars, and their term of residence.

5. Their course of studies, in the minutest detail, from the commencement to the end of their residence in the institution, with the text-books and other works used.

6. As a part of that course, specially important to the Girard College, we should desire to know the regulations or the practice by which, among a large body of scholars, a portion, after continuing for some time in the institution, are permitted to begin their active career in life—while others, with greater aptitude or greater willingness to learn, are carried up to the higher branches of education. The nature and the mode of that discrimination would be highly interesting—as would also be—

7. The precise extent to which moral and religious instruction is proposed to be given, and is actually given, and also by whom and in what form that instruction is conveyed.

8. The mechanical arts taught—the mode of teaching them —the models, tools, and implements of all kinds employed— and the manner in which the practice of these arts is mingled with the routine of studies.

9. The system of rewards and punishments in regard to studies or personal conduct.

10. The general police and discipline of the school.

11. The amusements—gymnastic exercises—games of all kinds, uniting instruction with agreeable relaxation—together with the number and extent of the vacations, pecuniary allowance, or personal indulgences to the scholars.

12. The diet and clothing of the scholars.

13. The regulations in regard to health, hours of study and of rest, arrangement as to sleeping and eating, and the whole routine of each day's employment.

14. The expenses of the school, including salaries and all incidents, with the average annual expense of each scholar.

15. The structure of the buildings, the arrangement of dormitories, refectories, play-grounds, and work-shops, illustrated by drawings, where they can be procured.

16. As a proper foundation for similar statistical inquiries in this country, you will collect all the information you can in respect to the proportion of orphans to the rest of the community.

These general heads of inquiry, which you can easily multiply, will indicate the wish of the Board that your examination should be thorough and practical. They already possess, or may easily obtain, all that books can teach on the subject. It is your especial duty to study the actual working of the machinery of education; to domesticate yourself, if practicable, in these institutions, and, by your own personal observation, to distinguish what is really useful from what is merely plausible in theory.

It is this anxiety that your investigation should be complete, which induces them not to fix at present any period for your return. How much time it may require cannot now be safely determined. They rely confidently on your diligence, and are sure that you will not prolong your absence without ample reason. While, therefore, they are very anxious to open the College with the least possible delay, they deem it so much more important to begin well than to begin soon, that they postpone naming any limit to your stay in Europe, until you are able to apprize them of your progress.

In respect to the purchase of books and apparatus, mentioned in the resolution of the Board, it is not their wish that you should, at this time, purchase a library, or an extensive philosophical apparatus. You will only inquire where they can be best procured hereafter, and, in the mean time, limit your actual purchases to text-books and other works used in schools, or which may assist your inquiries: to models, drawings, and such philosophical instruments as may be necessary or useful in

opening the College, or which you may deem it expedient to procure in anticipation of the larger collection.

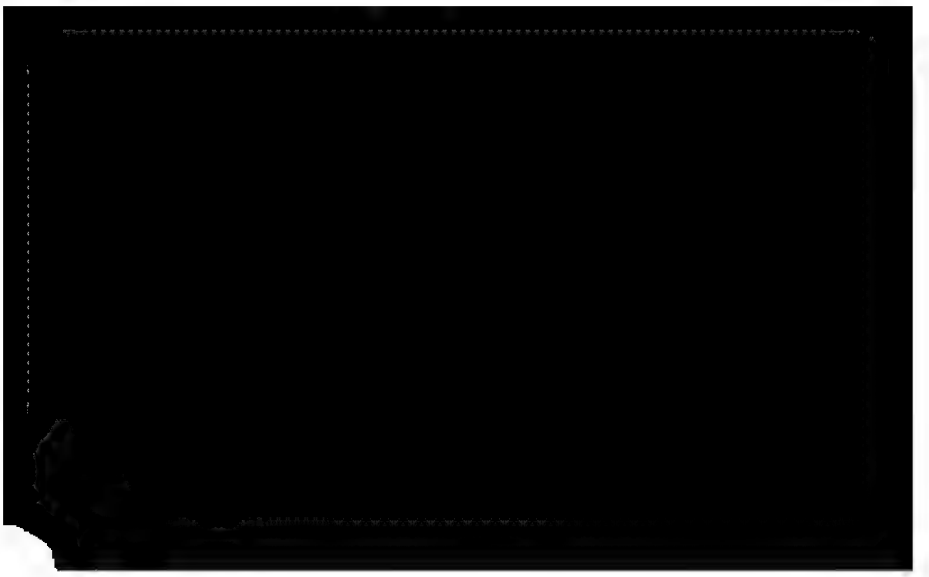
The materials and information thus acquired you will, on your return, present to the Board of Trustees, and at the same time, or as soon thereafter as practicable, you will prepare a final Report, with a plan for the government and instruction of the College—the result of all your examination and reflection.

In the mean time, you will keep the Board constantly advised of your movements.

With my best wishes that your mission may be as pleasant as I am sure it will be useful, I remain,

Your's, truly,

(Signed.) N. BIDDLE, *Chairman.*



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## ERRATA.

The following errata should be corrected as affecting, in general, the meaning of the text.

| | | | |
|---|---|---|---|
| On page 5, | line 17 | from top of page, | *for* "western" *read* southern. |
| 6, | 13 | bottom, | *erase* one of the "its." |
| 8, | 18 | " | before "impossible" *insert* sometimes. |
| 15, | 17 | top, | *for* the semicolon after "exercises" *place a* comma. |
| 18, | 7 & 8, | bottom, | *for* "require" *read* requires. |
| 28, | 13 | top, | *for* "insures" *read* insure. |
| 50, | 12 | " | *insert* "Intellectual Education" at beginning of line. |
| 76, | 13 | bottom, | *for* "infraction" *read* infractions. |
| 112, | 17 | " | *for* "amout" *read* amount. |
| 125, | 12 | " | *for* "gospel" *read* gospels, and *for* "works" *read* books. |
| 129, | 15 | top, | *for* "introduction" *read* introductory. |
| 151, | 10 | " | *for* "ten" *read* two. |
| 305, | 8 | " | *insert* after "credit of," first. |
| 386, | 10 | bottom, | *for* "composing" *read* comparing. |
| 391, | 12 | " | *for* "body" *read* board. |
| 409, | 3 | top, | *for* "recite" *read* have recreation. |
| 435, | 11 | " | *for* "branches" *read* bachelor. |
| 477, | 10 | bottom, | *for* "Olto" *read* Otto. |
| 504, | | Note, | *for* "380,381" *read* 398,399. |
| 534, | 15 & 16 | top, | *erase* "at a quarter to seven." |
| 540, | 17 | bottom, | *for* "Freyburgh" *read* Freyberg. |
| 573, | 14 | " | *erase* the colon between "described" and "at Potsdam." |
| 589, | 14 | top, | *for* "Freyburg" *read* Freyberg. |
| 593, | 15 | " | " " " |

# REPORT ON EDUCATION.

TO THE TRUSTEES OF THE
GIRARD COLLEGE FOR ORPHANS.

GENTLEMEN:

HAVING completed the tour of examination into the state of Education in Europe, undertaken by your direction, with especial reference to the organization of the Girard College for Orphans, I beg leave to present to you a Report upon the information collected.

The more immediate direction of my mission, as President of the Girard College for Orphans, was devolved by the Trustees upon their Committee on Scholastic Education, from whom I received detailed instructions. In these I was directed to visit the institutions in the principal countries of Europe, which might be supposed to afford useful information towards organizing the College, to procure text-books, and other works used in the more remarkable schools, and the more important works on Education: and to collect such philosophical instruments, models, and drawings, as might be useful or necessary in opening the College, or as might seem to me desirable to be purchased in anticipation of the larger collections.

My arrangements for leaving home were completed at the close of September, 1836; and after having visited the chief countries of Europe, which were the most interesting for my undertaking, I completed my tour in October, 1838. It is almost needless to say, that I am now not only ready, but

anxious to render available, as soon as possible, in the organization of the Girard College, the knowledge which has thus been acquired.

It will be the design of the present Report to state in what way I have executed the instructions of the Committee of the Board of Trustees, and to present the result of the inquiries which they directed. Their instructions contained, besides the general indications of the objects of my journey, suggestions as to the mode of securing these objects, which I found highly useful, and for which I feel very grateful. The most important purpose of my mission was the examination of institutions for Education, and my Report will principally consist of descriptions of these, and remarks upon them. The other objects were secondary, and even incidental.

Whoever has even glanced at the part of the Will of Mr. Girard, which relates to the endowment of a "College for Orphans," must have perceived that he intended no ordinary Orphan Asylum to be created with the immense fund which his liberality intrusted to the authorities of the city of his adoption. Mr. Girard has put himself in the place of a father to the orphan, and has determined that talent shall have all the opportunities for development, by education, within the reach of children the most favoured by the circumstances of their parents. This view has been prominent in all the measures taken by the City Councils of Philadelphia, in the execution of their trust; and the Board of Trustees, to whom they have delegated the direct control of the Institution, have, by their President, officially asserted this same understanding of the founder's wishes. A due execution, therefore, of the instructions of the Scholastic Committee, required not merely an examination of orphan-houses and elementary schools, but of the various modes of education and grades of instruction. This task I undertook with real distrust of my power to do it justice, notwithstanding the encouragement extended by the choice made of me, by gentlemen for whom I entertain a high respect. I must be allowed to say that, in the course of attempting its execution, I have spared no personal exertion, and that, though I may regret it

was not in abler hands, my conscience acquits me of having wasted any part of the time or means so liberally placed at my disposal by my fellow citizens.

Before entering upon the descriptive portion of my Report, I propose to give a brief sketch of the views and circumstances which guided me in the distribution of time in the different countries visited, and to present some of the general features of public education peculiar to each of them.

While there can be no doubt that the general principles of education must be founded upon those of human action, and hence be common to all nations, it must be admitted that systems framed from such general laws would require considerable modification to render them applicable to different countries. Differences in political and social organization, in habits and manners, require corresponding changes to adapt a system of education to the nation; and, without such modifications, success in the institutions of one country is no guarantee for the same result in those of another. The difficulties, however, of working out a plan of education, from observation, appeared to me much greater at the outset of my undertaking than they do now, that I have seen how very many of the essentials are common to all well organized institutions having the same scope. A consideration of these difficulties induced me to make Great Britain the first point of my tour, since it was reasonable to infer that the successful methods of education there might be more easily transplanted, being more directly applicable at home than those of other countries. The examination of some of the more interesting institutions there occupied rather more than eight months; and, lest this portion of time should appear too great in comparison with that devoted to the Continent, it may be well to state the circumstances which absolutely required so considerable an allotment. Owing to the absence of any regular or central system of education, and of any general responsibility in the management of its institutions for public instruction, and to the entire freedom of individual effort, more time is required to obtain access to, and examine the establishments of Great Britain, than of any other country which I visited. A proper idea of the

general arrangements can be obtained only by a study of particular cases, and each institution requires to be approached individually, and often in a different way, to secure a profitable entrance. As entirely different ideas frequently prevail in the organization of institutions of the same class, it is not sufficient, as it usually is elsewhere, to see merely a specimen to judge of the whole. For the special objects of my tour, the eleemosynary institutions were to be carefully inspected; and in the number of its Educational Charities, its Orphan Asylums, Blue-coat Schools, and Education Hospitals, Great Britain exceeds every other country in Europe. The city of Edinburgh and its vicinity alone contain five such institutions for boys, and no two of these are exactly alike in their regulations and administration, so that it was necessary to visit all to form precise ideas of their arrangements. If this be true of establishments having similar objects, in the same city, it may be inferred of those in different parts of the kingdom, and facts fully sustain the inference. It is true, to such an extent, that in preparing descriptions of these schools to present to the Board, I have found it difficult to classify them, so that by presenting, in detail, one institution as the type of a class, I might avoid the too great extension of this Report. The management of these institutions, the observation of which formed an important part of my duty, may serve in many points, especially in all that relates to the material comforts of life, as a model to those of other countries, in many of which I freely admit that more just ideas in regard to instruction prevail. Upon a review of the results of my visit to the institutions of Great Britain, it appears to me that the time was well bestowed, though more profitable experience in regard to instruction was acquired in less time in some of the countries of the Continent.

After completing a tour through some of the institutions of Ireland, Scotland, and England, I crossed to the Continent, and visited, in turn, the principal schools of France, Switzerland, Holland, Belgium, and the chief States of Germany, making also a rapid visit to Italy. The same subjects of inquiry did not, of course, interest me equally in these different countries, and I

proceed to pass briefly in review their respective points of interest.

In Great Britain, the charitable institutions for education occupied most of my attention. There, as in other countries where similar establishments exist, and where no great or recent change has been made in public instruction, the instruction within them resembles more nearly that of the schools of the same grade in general, than in countries where such a change has been wrought. While engaged in visiting them, I did not neglect, however, institutions which afforded a less direct prospect of advantage. To illustrate by an example; although Heriot's, the Watsons', and other hospitals for education at Edinburgh and Glasgow occupied a large share of my attention while in Scotland, I visited, more or less in detail, at Edinburgh, the Model Infant School, the Circus-Place Preparatory School, the Sessional School, the High School, the Academy, the Western Academy, the Hill Street Institution, and the University; at Glasgow, the Infant and Juvenile Schools of the Education Society, the different departments of the High School, and the University. I also made an excursion to St. Andrew's, to visit the Madras College founded by Dr. Bell.

In France, the general system of education, especially as modified in its lower departments, and the schools for science and the arts, formed the special objects of examination. The orphans are, in general, associated with the foundlings, and distributed through the country at the expense of the state; the system presenting nothing, as far as my inquiries led, either for approval or imitation. The plan, of which I venture to speak thus freely, must not be confounded with the excellent system in the Grand Duchy of Weimar, which, though similar in appearance, differs essentially from it. In Weimar, orphan children, deprived of both parents, are distributed among families, as nearly as possible in the same station of life as the deceased parents, and a real superintendence, both moral and intellectual, is exercised over them by officers specially appointed for the purpose, and by the parochial clergy and schoolmasters.

In Switzerland, recent and great efforts, consequent upon the

advance of true liberty, have been made among the republics, in behalf of general education. The school of Pestalozzi, at Yverdun, occupies a prominent place in the history of education; and the institutions of Fellenberg, at Hofwyl, have been frequently described. Others of great merit, but more recently established, are less generally known, and some of them will, as far as my limits allow, be noticed in this Report. I cannot, however, enter into the particulars requisite to present the striking results which the last seven years have produced in many of the cantons.

The common school system, as well as the eleemosynary institutions of Holland, deservedly attract much attention, and afforded interesting subjects for examination. There are peculiarities about both, and experiments have been made there which bear upon some of the most interesting questions in education. I need only refer, here, to those of the method of mutual instruction, and of the manner of supplying teachers; the latter of which experiments has led to a conclusion in favour of schools for teachers, which appears to me irresistible.

Among the institutions of the different states and free towns of Germany, I visited more or less in detail those of Prussia, Saxony, Austria, Bavaria, Wurtemberg, Nassau, Weimar, Frankfort, Bremen, and Hamburgh. The condition of public instruction, in general, in the different states, as well as of the different departments of it in the same state, is very unequal. Prussia is at present decidedly in advance of the other larger German States in the education of the people, especially in the manner and matter of the instruction. The ease with which every point connected with the schools is ascertained, is remarkable; and I look back to the time spent in them, and in intercourse with their teachers, as one of the most profitable portions of that occupied by my tour. As the various accounts which have been given of public instruction in Prussia have, in general, referred to the system more particularly than to the schools, I shall, in this Report, touch more briefly upon the former, and go more into detail in regard to the latter. By reference to their spirit and minute arrangements, it is easy to see where

they would apply as perfectly in a republic as in a monarchy. The instruction in many of the charitable institutions of that country has not kept pace with that in the schools in general, though there are others which have even led the way in improvement. Weimar has followed closely the Prussian model in its system of education, and the schools of Nassau may be said to be derived from the same source. The schools of Saxony were once famous throughout Europe, but the primary schools appear to have lost that rank; they are now, however, rapidly improving, by the same means which produced the present advanced state of instruction in Prussia—the education of teachers. In Bavaria, changes of system have been too recent to render general remarks of any value. I shall, however, give an account of the method of Graser, introduced into the schools of a section of the kingdom. In Austria, public instruction remains nearly on the footing upon which it was placed by the reforming emperor, Joseph the Second. There can be no doubt that it was once much in advance of the times, though the elementary department is at present behind that of most of the other German States. They still adhere to the incomplete plan of educating teachers in ordinary schools, and to antiquated methods of instruction. The Schools of Arts in Austria rank, however, with the best in Europe, and receive liberal encouragement from the government.

Of the many institutions which have claimed my attention, it would be entirely impossible to give even a meagre sketch within the limits appropriate to a Report,* and if it were practicable to go into details respecting all, many would be found not to repay the pains taken in reducing to paper a description of them. In making the selection, which is thus necessary, I shall endeavour to bring to the notice of the Board the countries in which the different departments of education are best carried on, and to give a sketch of the system of education, illustrated by the minutiæ of as many individual institu-

* The whole number of schools visited was upwards of two hundred and seventy-eight; to some of these, however, I merely made a single short visit, others occupied me for several days.

tions as appear necessary to exemplify the system, and to render its results available for practice; endeavouring to render each account as complete in itself as the nature of the main object of my Report will permit.

The manner of collecting the information which I sought requires a passing notice. The introductions which usually flow in abundantly upon any one known to have a special object in visiting a country, opened to me the earliest and sometimes the best sources of information as to the existence, nature, and extent of institutions, and of the books necessary to give particulars in regard to them, and which are rarely known at a distance. By consulting these and other works and documents, and by comparison of various opinions, I was usually enabled to decide correctly as to the course which I ought to take, to see what was most deserving of attention. However, sometimes erroneous opinions deceived me, and I found that my course had missed some interesting point, or had brought me to one of little interest. Occasionally the error was irremediable, but not often. Again, as it was necessary to employ all periods of the year, I found it impossible to arrange my visit so as to pass through a country at the period of greatest activity in the schools. Where the system of public instruction was central, like that of France, or Prussia, recourse to authority pointed out the proper institutions to visit, and gained admission to them. The personal acquaintance which the teachers of Germany have with each other, greatly facilitated my progress in its several states. Almost everywhere, indeed, I have reason to remember with gratitude the kind assistance rendered to me. Having ascertained the places which it would be, probably, profitable to visit and the institutions to be examined, I regulated the time and the attention devoted to them, by the interest which they appeared to present, returning to the same institution frequently or not at all, according to circumstances. As auxiliaries to my investigations during these visits, I procured the printed documents which existed relative to the institutions.

I also prepared beforehand a series of questions, to which, when modified to suit the particular establishment in regard to

which detailed information was desired, I obtained answers from the head, or from one or more intelligent persons connected with the establishment.

The written and printed sources of information which are thus at the disposal of the Board, are 1st. A journal of my visits to different institutions, and of verbal information received in regard to them, with my remarks. 2d. Replies to a series of questions in regard to particular institutions, or systems of instruction. 3d. Statutes, by-laws, and regulations of different institutions. Laws and documents relating to public instruction, &c. 4th. Histories, descriptions, and text-books of different schools. 5th. Particular works on education.

These form a mass of documentary matter which, duly arranged and digested,* will always throw the light of experiment upon doubtful points in the working of our system of organization. In many cases the documents, descriptive of the schools, give the actual results of suggestions contained in the works on education.

From this mass I propose to draw out some of the more prominent parts, and to call the attention of the Trustees specially to them. The personal experience gained by my tour will, however, as far as the Girard College is concerned, be its most important result. I could not expect the Trustees to follow me through descriptions or even notices of all the institutions which I have visited during my two years' absence, or listen to a record of the many failures and mistakes which I have seen, and which, though they have formed one considerable item in the experience gained, it would be truly an ungrateful task to record.

As best calculated to present the impressions, derived from this examination, of the actual results of education, I have adopted the descriptive form for my Report, and have purposely avoided summing up the conclusions, or presenting a review

* The translations from foreign languages have been made by Mr. Theodore Trewendt, to whose indefatigable zeal and industry in this matter, I am much indebted. The documents and books have also been systematically arranged by him. A list of the documents is appended to this Report.

of them separately from the facts, that the force of the opinions may not be weakened by appearing out of this connexion. It is true that the remarks must be considered as general inductions from numerous facts, and not inferences from single instances, but these instances serve as their best illustration, if not sufficient, taken singly, to prove that they are just. These remarks suggested themselves at first as queries to be answered by further observation.

This Report will be divided into two parts, the first relating to the means provided for the education of orphans, the second to the systems of general education. Corresponding to these divisions there are two groups of institutions which present, in general, different objects for consideration; in the first, the government, discipline, and domestic economy, as well as the instruction are to be examined; while in the second, the instruction is the chief point of interest. Every individual institution in the first group should furnish moral, intellectual, and physical education; many in the second are necessarily more limited in their design.

# PART I.

## INSTITUTIONS FOR THE EDUCATION OF ORPHANS, OR OTHER DESTITUTE CHILDREN, THE ADVANTAGES OF WHICH ARE SOMETIMES EXTENDED TO OTHER CLASSES.

It is not very material in what order these institutions are discussed, and I have adopted a geographical arrangement as well suited to their classification. The institutions selected to present to your notice, are a part of those of Great Britain, of the German States, and of Holland. I shall begin with those of Scotland, presenting next those of England, then of Hamburgh, then of Prussia, Saxony, and Frankfort on the Maine, then of Bohemia, and lastly of Holland.

## CHAPTER I.

### SCHOOLS FOR ORPHANS, &c., IN GREAT BRITAIN.

The greater number of well conducted and endowed institutions of this kind are found in Edinburgh, while the oldest is the celebrated Blue-coat School of London. The schools of this class throughout the kingdom resemble more or less the most prominent institution existing at the time when they were founded. Thus the arrangements of the Blue-coat Schools of Chester and Bristol have, until lately, been similar, and the new Blue-coat School at Oldham near Manchester, has been modelled upon the excellent establishment of the same kind at Liverpool. In some of these older schools, as at Chester, changes have been very slowly adopted, and they are nearly as antique in their style of education as in the costume of the pupils; while in others, as at Bristol, great changes have recently been made: in general, however, they are behind the more modern institutions. I propose to present in turn descriptions of the most prominent of the

schools of this kind which I visited; namely, of those at Edinburgh, called hospitals, founded by George Heriot, George Watson and John Watson, with a notice of Cauvin's Hospital, a description of the Blue-coat School at Liverpool, with a notice of that at Oldham near Manchester, a description of the London Orphan Asylum at Clapton, and of Christ's Hospital or the Blue-coat School of London.

In these, and in general in other cases where a formal division of the subject may be necessary, it will be treated under the heads of, 1st. The history, buildings, general government, and domestic economy of the institution. 2d. The reception and dismission of the pupils. 3d. The educational arrangements, considered under the divisions of intellectual, moral, and physical education.

There are in Edinburgh seven education hospitals, six of which admit other inmates than orphans. The effect of thus receiving children whose parents are alive, of maintaining, educating, and providing situations for them, is supposed by many intelligent men to be injurious to the tone of social morals,* and to remove a stimulus to honourable exertion on the part of parents, by providing for their children if they surrender them, or, if the parents are disposed to struggle for their education at home, by placing them in unfavourable competition with others so educated. Such an opinion might be brought to the test of numbers, but I was not able to find that this had been done by any who entertained it. The grounds of the argument, even if admitted

son's have each a provision for the higher instruction of boys of talent, and Cauvin's is intended to educate teachers.

The building for the Orphan Hospital is on a fine scale, and its interior arrangements in general so good, that I herewith submit the plans. It is, as to economy and discipline, on a similar footing with John Watson's Hospital, of which I shall give a particular description, while in regard to instruction it occupies a lower level. On these accounts I have supposed that a special description of the establishment is unnecessary. The government is of the paternal kind, the household forming one family, of which the master is the chief. The moral, physical, and intellectual education, thus depend mainly upon one person, who acts, however, under certain general regulations prescribed by the trustees of the hospital. Fatherless children are received in this institution as orphans.

## HERIOT'S HOSPITAL.

*History and Building.* This noble institution, originally designed for the maintenance and education of poor fatherless sons of burgesses, or freemen,* of the city of Edinburgh, was founded in pursuance of the will of George Heriot, jeweller, dated 1623. By this will Doctor Robert Balcanquall, Dean of Rochester, and master of the Savoy, London,† was selected to draw up the statutes for the organization and government of the institution, and to decide upon the plan of a building. By the statutes of Dr. Balcanquall, dated July, 1627, the government of Heriot's Hospital is vested in the provost, bailiffs, council, and ministers (of the established church) of the city of Edinburgh, and the present building was erected between 1627 and 1650. The charity has been extended to destitute children whose parents are living, and by a late act of Parliament the governors have been authorized to erect day-schools in the city

* "For the maintenance, releife, bringing vpp and educaçon of soe manie poore fatherlesse boyes, freemens sonnes of that towne of Edonburgh."

† An institution intended for the relief of the poor, which was founded in 1513; suppressed on account of abuses in 1553. Restored by Queen Mary, and finally suppressed in 1702 by Queen Anne.

with the surplus of their income, after supporting the present number of one hundred and eighty pupils in the hospital itself.* This surplus is derived from the increased value of the estates held by the governors; and the application of it to schools instead of to the increase of the hospital, was decided to be advisable, after much consideration and discussion. They were induced, no doubt, by the fact that ample provision is made for destitute children of various classes in the city of Edinburgh, and perhaps also by the doubt, to which I have already referred, of the utility of institutions extending education and maintenance to those whose parents are alive. My information in regard to this institution is derived from the printed documents, kindly furnished to me by the house-governor† and the treasurer of the hospital;‡ from an examination of the books kept at the hospital and at the treasurer's office, which, on stating the object of my mission, were most liberally opened to me; from replies to my queries by the house-governor; from repeated visits to the institution at various hours, and from conversations with the governors and masters.§ The government of the institution is regulated by the original statutes of Dr. Balcanquall, of which certain parts only are deemed fundamental, and by regulations and by-laws enacted from time to time by the trustees.

The building is in the Gothic style, with the irregularities and excess of ornament which it permits, and is beautifully situated, overlooking part of the old town of Edinburgh, and having a fine view of its picturesque castle and of the new town. The house is divided into many small rooms, approached by turret stairs, in the style prevailing two centuries ago, but now deem-

* The present income of the institution is not less than from sixty-five to seventy thousand dollars.

† The Rev. Hector Holme. ‡ Mr. Bayley.

§ As the sources of information in regard to different institutions are very similar, and have already been stated in a general way, and are now repeated here, I do not think it necessary to restate them at every new description. The list of printed documents relating to public instruction is in the Appendix No. I.

ed inconvenient. It contains rooms for the meeting of the governors, for the lodging of the masters, a dining-hall for the pupils and for the masters, dormitories and wash-rooms, a kitchen, various offices, and bath-rooms. The room recently fitted up for the drawing-classes, is lighted from above, while blinds at the side windows prevent cross lights. Many of the rooms have the necessary arrangements for lighting them by gas, and the means of heating have been lately improved by the introduction of warm air. The ventilation of the school rooms is, however, quite imperfect. Indeed, of the many buildings I have seen, very few are even tolerably ventilated, and it should be a matter of congratulation that our architect has devoted much attention to this point.*

The court about which the building is erected, serves as a place of play for the boys at certain times, and to give them full liberty in their games of hand-ball, which seem to find more favour among them than regular gymnastic exercises. Gratings of wire are placed on the outside of the lower windows, which protect them from fracture. At first the effect of these gratings of wire, suggesting the idea of the want of discipline, which rendered them necessary as a protection to the windows, struck me unpleasantly, but when I saw the great freedom which it gave to the younger pupils in their games, my first impressions were entirely removed.

*General Government and Domestic Economy of the Institution.* The Board of Governors vest the internal management and immediate superintendence of the hospital in a visiting committee, who further divide themselves into sub-committees, meeting at the hospital at least once a fortnight. The house-governor meets with these committees. It is usual also for members of the board to attend the Sunday evening exercises at the institution. The board is also divided into the following commit-

* The consequence of defective ventilation, on those confined in school-rooms, has been often much insisted upon, and yet proper ventilation is very imperfectly understood. It is not enough to trust merely to the opening of the upper parts of windows for such a purpose. Draughts and abrupt changes of temperature are thus produced which are injurious to health.

tees: 1. Of auditors, who audit, yearly, the treasurer's accounts. 2. Of finance, who advise with the treasurer on occasion, and examine such accounts as the regulations do not refer to the treasurer and house-committee. 3. Of superintendence of the hospital property. 4. Of grounds leased. 5. Of laws. 6. Of the house, who attend to making contracts, passing bills for house expenses, ordering small repairs, &c. 7. Of education. 8. Of the superintendence of the boys after leaving the hospital. 9. Of the erection of new schools. 10. General visiting committee of all the governors.

The officers* of the institution are—1st, a treasurer, who receives the moneys for the register, pays the bills of the hospital, the salaries of the teachers, the expenses of every week as certified by the house-governor and an accountant, and has charge of the repairs of the building.

2d. A register, or clerk, of the hospital, who is also secretary to the governors, and has in general charge of the books and papers of the hospital. He attends also to all law business, receives the rents of the estates, the leases of which are executed by him. The checks for the payment of the officers within the hospital are sent there, with one also for the amount of servant wages, which are paid by the matron.

3d. The house-governor, who is the head of the institution, and also one of the teachers, and has a seat in the Board of Governors. He is responsible directly to the visiting committee or its sub-committees, and all the inmates of the hospital directly to him. Besides acting as the head of the family, he is required to teach daily, three hours, the boys of the elder classes, "such branches as shall be interesting to *all* these boys, whatever may be their destination in after life; for example, the general outlines of history, particularly English history; geography; the first principles of natural history and of mechanical philosophy; the elements of English composition; and the higher

* The salaries are judiciously left in blank in the original statutes. I do not insert those which are now paid, because the salaries of officers, taken out of connexion with minute statistical information in regard to the country in which they reside, are data which can lead to no just conclusions.

branches of religious instruction." He must also examine the classes of the other masters, once a week, and preserve a record of the places of the boys, &c. He keeps a book containing the account of provisions received and issued, a record of things ordered for the house, which is settled weekly, a day-book for issues, the accounts of which are transferred to the ledger and to the monthly bills, a list of admissions, &c.

4th. The masters, of whom four are resident, and whose duties will be particularly described hereafter. I remark here what seems to me a decided defect in the organization of the institution, that these masters have no meetings as a board, and hence their views of discipline and instruction are never directly consulted.

5th. A physician and surgeon, who, besides making regular visits, are required to attend as often as called for.

6th. The mistress or matron, who has charge of all the moveables of the house, and in general acts as mistress of the family; superintending the duties of the female servants, the issues of clothes, of tea and sugar, the police of the house, and of the pupils, the sick-rooms, the washing, the ordinary fare, and the diet of the sick.

7th. The steward, who receives the supplies of meat, bread, milk, flour, &c., contracts for coal, and candles, and verifies the weight and quality, under the direction of the matron; has charge of the deliveries of the same, and of the order and police of the dining-hall and of the eating utensils. His accounts are examined once a month, by the house-governor and treasurer, and paid by the latter.

The servants are as follows: Nine female servants for the police of the house, serving the tables, washing the feet of all the boys once a week, and the care of the junior boys in their wards. One of them may act as nurse. One cook. Three laundresses. Two wardmen, one of whom sleeps in and has charge of each senior ward. One of them must be in the play-ground when the boys are at play. Two porters, one of whom may be a married man, and has charge of the gates, and who are jointly responsible for the police of the grounds about the house,

and for the preservation of the building. They receive the visitors, who are admitted by an order from the treasurer, or the house-governor, and show them the various parts of the hospital.

*Reception and Dismission of Pupils.* The rules require that application for admission shall be made at least three weeks before the periods of election in April and October. The applicants must be above seven years of age and below eleven. The cases are canvassed by a committee of the governors, and selections are made depending upon the degree of destitution, the character of the parents, the degree of instruction which the applicant has received, and his general intelligence manifested at an examination by the house-governor. Children who have lost both parents are in general considered as presenting the highest claims; next those who have lost their father, and then those who have lost their mother, and lastly those whose parents are alive.* It is understood that certificates of the marriage of the parents, of the baptism of the children, and of the father's right as a freeman, must have been presented.

The new comers are separated for twelve months from the rest of the boys at all times, occupying separate places in church and in chapel, and separate dormitories; taking their meals and exercise, and visiting their relations at different times from the others. By this regulation it seems to me that the force of good example is made ineffective, and that each new set of boys requires a new training. I am not aware when it was first enacted. It does not appear in the original statutes, and was perhaps one of the measures used to break up a most shocking abuse of the fagging system which prevailed many years ago in the school, and by which the elder boys were the complete tyrants of the younger ones. So deeply rooted had the practice of this system, known as "Garin law,"† become, that it cost the expul-

* Of two hundred and three boys admitted, between October, 1830, and October, 1836, eight had lost both parents, thirty had lost their father, fourteen their mother, and one hundred and forty-eight had both parents alive. Three were admitted on presentations, not requiring a statement as to whether their parents were alive or not.

† Gar signifies force.

sion of some twenty pupils to eradicate it. I have every reason to believe that the true relation of the pupils to each other and to the masters, is now much better understood. It is easy to see that there may have been other reasons for the separation of the new comers from the other pupils, but none of those which occur to me seem to make it desirable. These boys are under female superintendence.

The pupils in general leave the institution at fourteen years of age; if a boy is not fourteen on or before the day for regular dismission, he remains another year in the institution, and certain pupils are retained until sixteen. The statutes provide that "hopeful scholars" may receive, for four years, a sum of money to enable them to attend the classes of the high-school as a means of preparation for, and to continue their education at, the University of Edinburgh. The institution pays the apprentice fee of such as are bound out, and gives gratuities to those who produce satisfactory certificates of conduct and progress. The regulations in regard to the arrangements for leaving the institution are highly judicious, and will be found in detail in the Appendix to this Report (No. III.) The governors require, six months before the time when a boy should leave the school, a report of his conduct, acquirement, and talents, from the house-governor. One month before the same time a statement from his parent, or guardian, of the calling which it is wished the boy should adopt, the master who may be chosen, and the arrangements desired to be made for boarding. These matters are discussed, and the disposition made of the boy depends upon the result. The boy having been bound apprentice, the master cannot receive the annual instalments of the apprentice fee, without answering certain queries as to the conduct and proficiency of his apprentice. It is also provided that answers to two other similar series* of questions, one addressed to the apprentice, the other to the person with whom he lodges, shall be furnished annually, and the treasurer is enjoined to keep a register of them.

* See Appendix No. IV.

On leaving the institution, each pupil receives an outfit of clothing, &c.* The boys intended for the university are maintained and clothed, and receive a certain sum per annum.

*Education.* This term appears to have been considered by the authors of the regulations as synonymous with instruction, and accordingly, they provide that "the education which the boys receive shall be, as much as possible, accommodated to the capacity and prospects of each."† The subjects of instruction, according to the order in which they rank in importance in the institution, are English (*i. e.* spelling and reading,) grammar, geography, and history, writing, Latin, mathematics, drawing, French, music, Greek, mechanical and natural philosophy, and chemistry. These are taught in seven classes, and the first two are exclusively occupied with the English studies, writing, and arithmetic. The third and fourth classes have one hour of Latin. The sixth has but one hour of the miscellaneous English studies, and the seventh has none. Natural philosophy is in fact not taught, and the chemical course has been cut off. Greek is taught only in its very elements. In the attempts to improve the courses of this school, to bring them up to the present state of instruction, the additional branches have been loosely attached, and the course is not now one consistent whole. The only remedy for this, consistent with keeping up with the progress of instruction, is to revise the entire course, from time to time, maintaining due subordination of the separate branches to the general plan of studies.

The corps of masters is divided into resident masters and non-resident, a good arrangement when the teachers are numerous. There are resident in the house, besides the house-governor, who has charge of the geographical and religious instruction, and of part of the historical course, two masters of

* One dozen shirts, half a dozen pairs of stockings, a Bible, and other books.

† The kind of instruction which appeared necessary in the day of Dr. Balcanquall, we learn from the statutes: "and becaus that the scholleris salbe brocht upe in letteris, their salbe a schoil maister whose office salbe to teache the scholleris to read and wreatt Scottis distinctlie, to cypher and cast all maner of accomptis as also to teache yame the Latine rudimentis, bot no further."

the English branches, a mathematical, and a classical teacher. The non-resident teachers are those of music, writing, drawing, and French. The music taught is church music; and the drawing, that denominated mechanical drawing.

The principal labour of teaching the various courses is divided among five masters. Of these, the house-governor teaches three hours every day; the other masters from six to seven hours, besides superintending the studies for an hour, and, in rotation, taking charge of the boys at rising and going to bed, at meals, and by the regulations being even responsible for them during play time. They are thus decidedly overburthened with labour, and the compensation which they receive for this devotion is not such as to attach them permanently to the institution.

The methods of teaching the different general branches do not vary much. Lessons are given to be learned from books, either in or out of the school-room. Oral explanations are joined. The mathematical instruction is chiefly oral. In the English department the method of the sessional-school hereafter to be described, is intended to be practised.* The efficiency of this department seemed to me impaired by the distribution of the classes, each of the two masters having one division of each of the two English classes, so that there were always two divisions in the same master's room at the same time, in different states of advancement. As but one of these divisions could be taught at a time, the other was occupied in preparing lessons under monitors. The regulation which requires these masters to teach the elements of Latin, acts injuriously upon this department, and reacts upon the classical department, by giving a different elementary preparation to the two divisions, which are afterwards united in the proper Latin class. The classical instruction is intended to prepare boys for the upper classes of

* One of the English masters, the Rev. John Oswald, has prepared a series of etymological works, carrying out the practice of the sessional-school. His Etymological Dictionary of the English language was republished here, with notes, by the late Dr. J. M. Keagy, one of the Trustees of the Girard College.

the high-school, and ultimately for the university. The Latin course extends to the partial reading of Virgil and Horace—and the Greek includes merely the elements. The principle is recognised that all the pupils are not required to pursue the classical courses, the propriety of which will at once be admitted, when it is stated that of sixty-two boys, forty-seven become apprentices to trades, and a larger number leave the institution at or before sixteen years of age. The plan of carrying out this principle, however, strikes me as liable to many objections. The study of Latin begins in the fourth class, or after the boys have been three years in the school. The regulations provide that "each boy shall have a fair trial of the study of Latin. If, upon the average of the first year, he be found in the lowest *two-thirds* of the class to which he belongs, he shall remain in that class for a second year; and if, at the end of the second year, he occupy no higher place in it, he shall be withdrawn from the study, and shall be engaged in other employments." The execution of this rule inevitably detains a boy who has not a talent for language two years in a class for which he is utterly unfit, injuring his habits of attention, wasting time which he might otherwise employ to some purpose, and reacting injuriously upon the class. In fact, a considerable number of the boys never, while they remain in the school, get beyond the fourth class, in which the elements of Latin are taught; and of those who pursue the Latin studies, very few succeed in securing the university places. Thus, for the sake of the few who can really benefit by the classical courses, the many are employed upon subjects which, to say the least, might better be replaced by others. I am far from being one of those who undervalue classical culture, but I am convinced that to be at all effective it must be thorough, that it cannot be thorough when the instruction is terminated at an early age, and that there are certain minds very little or not at all improvable by language, as there are others similarly related to mathematical studies. If the object of a school were to make professional men, I would have the classical course the rule, and then, consider as exceptional cases those who, from character of mind, want of

industry, inability from circumstances to remain sufficiently long in the school, or other causes, were unable to benefit largely by such a course; but if the school has a majority of its pupils intended for trades, I would make the culture of mind depending upon classics the exception. It is easy to see how such a system could be contrived, and there are many institutions on the continent of Europe, which furnish examples of the plan. In regard to the instruction in French, the same seems to me to be true, whether we consider it as a means of cultivating the faculties, or as useful for future application. In point of fact, it is begun too late to acquire much knowledge of it before leaving the institution.

With a view to inform themselves as to the results of their system of instruction, the governors have lately required from those boys who receive pecuniary rewards during their apprenticeship, the presentation of three documents, before referred to, containing answers to certain queries. One of the sets of questions is answered by the master, and relates to the conduct of the boy, as an apprentice; a second, by the person with whom the boy lodges, and contains an account of his conduct while in the house, of his hours, &c.; a third, by the boy himself—and inquires, among other points, into his hours of work, his occupations, and relaxation, and the utility of his studies, while in the hospital, to the business in which he is engaged. This excellent regulation has been in force only some three years, and hence the inferences, from the replies of the boys, are not as important as they will one day be. Even with a longer continued average, they will not be absolutely conclusive in regard to the value of the several branches of study, for it requires very good judgment to get rid of the idea that only the immediately useful is at all useful, and to appreciate the effect of general mental culture. As a result, however, of the expression of opinion of forty-seven out of sixty-four boys, nearly all had found use for their arithmetical studies, and some for their English studies, including grammar, geography, and history. Of those from whom I saw no replies, seventeen in number, four were at the university, who, from the prizes which

the "Heriot's boys" carry away in classics, no doubt found their Latin and Greek (especially the former) studies "useful;" three were not minors, and two deceased; leaving but eight out of sixty-four unaccounted for.

Should the results of these queries continue to be as just stated, they will one day afford the strongest argument in favour of my position, that the arrangement is a defective one, by which, in an institution for the purposes answered by Heriot's, the classics are made the basis of instruction. At present, other grounds are stronger.

The mathematical instruction includes arithmetic, through fractions, and elementary algebra and geometry, and is upon the plan generally followed in the higher schools, and in part of the universities of Scotland. Oral explanations are given by the teacher, and examples are worked by the pupils, in concert or individually, by the teacher performing the work, or drawing the figures, on a black board, at the dictation of the boy. This mode is accompanied by the working of examples, by the pupil, on the slate, but so far as the mechanical operations are executed by the teacher the pupil is deprived of the means of acquiring dexterity in writing or drawing figures, and of ideas of proportion, and thus loses the opportunity of the education of both the hand and eye. This method, further, renders the knowledge of the pupils somewhat uncertain, since the operation of the master may precede the direction of the pupil; and while it may be convenient in some cases, its general use appears to me injurious. Of this, I believe the intelligent mathematical master at Heriot's is fully satisfied. There are two special prizes for excellence in this department, which are awarded on competition.

The mode of instruction in drawing is the same as that used in the Prussian schools, and to which attention has been called in Scotland by the able Secretary of the Royal Society of Edinburgh, Sir John Robison. The boys, after learning the first elements of linear drawing, draw from models; a simple perspective machine being used to give them an idea of the principles which they are to put in practice. At first, simple solids,

bounded by straight and curved lines, are set before them, and drawn upon the slate. Then mouldings, and, gradually, more complex combinations of surfaces are given, and are drawn upon paper with the crayon or pencil. This method forms the eye admirably, but does little, I may say nothing, to improve the taste. Hence, it is rejected by some. Nevertheless it appears to me admirably adapted for the ordinary purposes of life, and especially for the use of those engaged in mechanical pursuits, and much superior to the system of linear drawing from engravings, taught in the primary schools of France. The method has the further advantage, that almost every pupil is able to acquire some proficiency in mechanical drawing and sketching by it. Every boy must attend this class for at least twelve months before leaving the institution. When I visited the hospital, the hours interfered much with those of other departments.

There is a writing lesson, of at least one hour a day, for each class, and two prizes for excellence have been established by a late governor.

*Religious and Moral Instruction.* The positive religious instruction is given by the study of the Bible, the Evidences of Christianity, and the Catechism of the Church of Scotland. Family worship also is held morning and evening. On Sunday, in addition, the pupils are occupied one hour in the morning in the study of the Church Catechism, or of a Bible lesson or hymn, which they recite in the evening, and they attend church twice during the day. Besides this, the discipline of the school, repressing what is amiss, and encouraging virtue, acts of course powerfully; the example of the elder boys, and the good order which prevails, tend to produce regular habits. The results of this combined moral education are to be found in the records of the character of the pupils, when they are no longer under the fostering care of the institution; and the answers to the queries before referred to, in regard to the conduct of the young men, given by the masters to whom they are apprenticed, and by those with whom they lodge, exhibit these results in a highly satisfactory point of view. Of forty-seven sets of answers, forty were entirely to the credit of the young

men, on the part of the masters, and forty-six on the part of the persons with whom they lodged. Of the seven falling under censure, three had not made satisfactory progress in their business; two were, in addition, absent sometimes; one was complained of as not doing his errands punctually, and only one was of the class considered decidedly vicious.

I have found no subject of discipline, in regard to which more diversity of opinion exists, than as to the appropriate amount of intercourse with relatives to be allowed during the stay of a boy in these establishments. On the one hand, the importance of not breaking such natural ties as the boy may have, is obvious; and, on the other, the injury resulting from bad counsel, undue indulgence, and even, in some cases, bad example, becomes not less so from experience. According as one or other of these disadvantages predominates in the teacher's mind, he is favourable or not to frequent intercourse with relatives. In Heriot's Hospital, the pupils cannot leave the house for the purpose of visiting their friends oftener than once in three weeks, unless under special circumstances, of which the house-governor is the judge. Those who live in town are received at the door of the house by a relation, who is charged with their return at the appointed time. Those whose relatives live in the country have, if the visiting committee, or house-governor, see no objection thereto, a vacation of three weeks during the month of August. The relatives who reside in Edinburgh, are not allowed to visit the pupils unless when called to the house by the governor, or when their boys are sick. Those who reside in the country, must obtain permission from the house-governor to make visits. So much depends upon the character of the relatives and connexions of the youth, that it appears to me no other rule, than to give to some officer a discretionary power to permit the absence of pupils, can be adopted, until the particular circumstances of the institution are carefully studied.

To keep in remembrance the good deed of the founder of the school, the first Monday of June is celebrated as his birth-day.

Closely connected with the intellectual and moral education

stand the rewards and punishments adopted in the institution. These consist of places in the class, and in the superintendence over their fellows in the house, in indulgences of visiting or receiving friends, in prizes for proficiency or good conduct, in the greater or less extent of their instruction while in the house, in pecuniary allowances during their apprenticeship, or to enable them to pursue a university education, and in assistance even after their apprenticeship. Those boys who are at the high-school, preparatory to entering the university, lodge in the house; an arrangement which I saw extended with great effect at Amsterdam, and elsewhere in Holland, to all the pupils who are apprenticed in the city. The regulations require that, "the more degrading kinds of corporal punishment shall be as seldom as possible resorted to," and yet counteract the good effect of this provision by directing that "they shall not be inflicted in the private classes, but only in what is called 'the public school,' in presence of the house-governor," thus rendering the degradation most certain by the publicity of the punishment. It is true, these chastisements are rarely inflicted, and the regulations provide that "they shall not be resorted to for mere literary negligence, if unaccompanied by moral blame." The house-governor has great latitude in regard to the character of the punishments, and I am sure exercises a sound discretion in reference to them.

There can be no doubt that it is more dangerous to blunt the sensibilities of a youth to moral reproof, than to harden him by corporal chastisement. Hence such chastisements may be preferable in certain cases, where reproof has failed, to a continuance of the attempt to correct by admonition. This supposes it to be administered in private, without temper, and as a last resort. Some dispositions are better acted upon by the deprivation of indulgences by confinement, and similar penalties of this class, where remonstrances have failed; while others require something more immediate in its action. In many schools in England, where the rod was once freely used, it has been almost, and in others entirely, laid aside. In schools like these, where the youth is entirely dependent upon the institution, I am fully

persuaded that, with proper treatment, it need be resorted to very seldom, if at all. Few dispositions are not open to kindness, especially under these circumstances, and no master has the qualities appropriate to such an institution who prefers the repulsive system to the encouraging. I refer to the example of the English schools because they have held out longest against the modern improvements in discipline, and their relinquishment of such means is a stronger argument than could be derived from the more gentle discipline of the continent. The spirit of kindness between master and pupil which exists in many of the continental schools, the confidence that renders him, as it were, the head of a family circle, are delightful to witness, and insure, better than stripes, the obedience of his pupils. I believe that this species of discipline, which *leads* the pupil instead of *driving* him, may be considered as particularly congenial to the American character. The governors of Heriot's say that "it is earnestly recommended, that as far as possible, preventions of fault be employed; and that gentle treatment be practised with the children." Thus, as far as their recommendation goes, they are on the side where I should prefer to range myself. There is one point in which the teachers at Heriot's have not the means of acquiring that moral control over the boys which would smooth many of their difficulties; the education during the play hours is not attended to by them. It is true that each of the teachers, in rotation, is responsible for the order of the house; but he has not the immediate superintendence of the boys. In such an institution especially, this is of importance, and the many hours of occupation in teaching, which prevents the intimacy of the masters with the boys during periods of relaxation, is a serious disadvantage. That such an intimacy is extremely important to moral training, no sound educator now doubts; and it is certain that much teaching in school is not equivalent to moderate training out of school, to form the moral man. Servants cannot supply the place of the teacher. The general principle which I would here inculcate, is distinctly recognised in some of the best training-schools which I have seen, and

renders the infant-school system of moral training in Scotland so perfect.

*Physical Education.* A due attention to this branch, though fully insisted upon in all modern works on education, and commanding from the common sense of every one a ready assent as an abstract proposition, is yet strangely neglected in many establishments which I have visited. The clothing and diet, at Heriot's Hospital, are good in quality, and ample in quantity, and cleanliness is sufficiently attended to. The linen is changed thrice a week, the stockings as often in summer, two suits of over-clothes* are allowed a year, and are an adequate supply, in a climate where very slight changes are required for comfort in the different seasons. The bed linen is frequently changed.

The arrangements of the lavatory for the pupils are good, each lad having the means of washing and wiping separately from the rest, and the opportunities of bathing are furnished in warm weather.† The boys are brushed and combed daily. The cleanliness in the dormitories, school-rooms, &c., appeared to me satisfactory, and the ventilation of the former is unexceptionable, and is made the subject of a distinct regulation, requiring the bed clothes to be "drawn" from the hour of rising, (six in summer and seven in winter) until ten A. M., and the windows to be kept open until three P. M. in winter, and seven P. M. in summer. I have already remarked upon the imperfect ventilation of the school-rooms. The pupils walk out frequently in summer, five or six miles, and make excursions dur-

* The allowance of other clothing per annum, is three day-shirts, one night-shirt of check, four pairs of stockings, two pairs of suspenders, four pairs of shoes and mending, two pocket-handkerchiefs. The latter are looped to a button in the pocket to preserve them, and must be shown at the daily morning inspection. The making and mending of the shoes, and making of upper clothes, is contracted for. The uniform, when I visited the school, consisted of a brown coatee, which they intended to change for a roundabout, corduroy pantaloons, and a cloth vest.

† The change in these respects, within the memory of some most respectable citizens of Edinburgh, is truly surprising. In former days, all washed from one vessel, and wiped on one long towel! The influence upon moral training of a state of physical education which permitted such things, must have been great. The practices, of course, tended to the propagation of cutaneous diseases.

ing the three weeks' holiday of August, when about two-thirds of the school are still together, to Roslin and Stirling. A system of gymnastics was adopted some years since, for affording regular and graduated muscular exercises, but it has fallen entirely into disuse. After the novelty had worn off, the boys grew weary of the exercises, and greatly preferred the ordinary sports of the schools. I have had occasion to remark, as applying to the English schools in general, that the gymnastic exercises, so popular in some parts of Germany and Switzerland, had not taken root in any of them, though in many they had been introduced, and well and carefully taught. At the same time, nothing is more characteristic of the English school-boy, than his fondness for exercise in the different games of the schools. The greatest number of play hours is three per day, according to a schedule furnished me, and this seems to me, from comparison with the other schools, quite too small, especially for the younger boys; and the unbroken succession of several hours in school, is also objectionable. The amount of time which these boys are employed in the class-room, frequently reaching for the elder ones to eight hours a day, and the variety of subjects brought before them in their short course, at the longest but seven years, appears from observation to be highly detrimental to intellectual development. It is, indeed, said to diminish the amount of repressive discipline necessary in the institution, by taming the spirit by over intellectual work, but a saving of this sort is a real loss. It is probable that the diet, and limited amount of exercise at Heriot's, may also have something to do with the absence of youthful buoyancy and activity which I noticed among the pupils. The practice of giving a luncheon of bread in the interval between each of the three regular meals will not explain, as I first supposed it would, this observation, since it does not involve necessarily any excess of food. And besides, I found the same practice in schools in Germany, where a like effect is not observable. It prepares the pupils badly, however, for their diet in after life. The kind and quantity of food will be found stated in the Appendix (No. VII.) The boys do none of the menial work of the

house, and even that relating to them personally is attended to by servants. The dormitories are cleaned, the beds made, the arrangements for meals provided and removed, the clothes are brushed, shoes cleaned, &c., by the servants of the institution. These boys, brought up thus to be waited upon instead of waiting on themselves, must, when they leave the school, find their position of attending to the wants of others particularly irksome. Indeed, many of those persons who receive them as apprentices, judging by the awkwardness with which these and other common affairs of life are attended to by them, underrate exceedingly the results of their education. This effect is increased by their ignorance of ordinary life. The masters having no families, those boys who never leave the school have no opportunity of witnessing any other than the peculiar modification of society which the hospital affords, and even those who do visit their friends, form only such an acquaintance with life as a few weeks in each year can give.

In the only government school of our country, the Military Academy at West Point, where youths are received, whose parents are in all the various circumstances of life, an opposite plan is pursued in regard to the duties of the house and personal police; and I have reason to know, from personal experience and an extensive acquaintance with its graduates, that the independent habits thus produced are retained by many as among the most convenient results of their early training.

From the documents so liberally put at my disposal in Heriot's Hospital, I had an opportunity to examine an interesting question on its tendency to remove the pupils from the class, as to occupation, of their parents, and to place them in others requiring a higher grade of mental cultivation. The registers for the last three years contain the pursuits of the father of each pupil admitted, and the occupation of the pupils who have left the institution. The fathers of sixty-seven out of seventy-three boys were tradesmen or shopkeepers. Of the sons, fifty-six became tradesmen or shopkeepers, six followed other occupations, ten were not stated on the book, and two had died. Distributing this number of

twelve, in the ratio of fifty-six to six, we have sixty-six to seven, nearly, as the ratio of those who followed the trades to those who went into other occupations, or nearly the same as above stated in the case of the parents of the pupils. Of these boys, the number who have embraced the same occupation as the father, he being alive, is eleven, and he being dead, two, in all thirteen. This tendency in the old country, for the son to follow in his father's footsteps, is of course much greater than in ours, but it amounts only to thirteen in sixty-two in the case under discussion. While, then, the education at Heriot's has been freely spoken of as reflection prompted me, I do not find any evidence that, under the circumstances which exist in Edinburgh, it can be charged with a tendency unduly to increase the professional classes.

Exactly an opposite objection has been urged against the institution, viz. that from its foundation to the present day it has not produced a single *great* man, in any department. That it has furnished many useful citizens, and some, who in their places have been distinguished, is certain. To use the language of a most excellent divine of Edinburgh, "if it has not produced distinguished men, it has infused into the industrious classes a considerable number of sober, steady citizens." Many of these have risen to civic honours, and become governors of the institution which, in their youth, had fostered them. A desire to subject it to the test of producing results to which education is entirely incompetent, is rather preposterous. School systems may aid in developing mind, but it is not their province to produce it. They address themselves to averages of intellect, all of which are below greatness.

### GEORGE WATSON'S HOSPITAL.

This institution, which was modelled on Heriot's hospital, resembles it in its general outline; there are, however, some differences which will be worth remarking, especially as I am inclined to think that the proper relations between the pupils and their teachers are here better understood. It is true that Heriot's contains between two and three times as many boys as

the Watsons', and the difficulty of treating them as individuals, increases greatly with the numbers.

*History, Building, &c.* This institution was founded by George Watson, who, by strict economy and prudence, first in the situation of a clerk, and then trading on his own account, died an independent and even, for the times, a wealthy man. After legacies to his few surviving relatives, he left the bulk of his estates, £12,000, to found a house of education* for the children of decayed merchants of Edinburgh. The present plain structure was erected about 1724, by the company of merchants and other trustees of the bequest, on a lot belonging to Heriot's Hospital, and opposite to that edifice.

The organization of the Board of Governors who direct this establishment, is quite similar to that already described for Heriot's, being however more simple, because they have less property, and a smaller institution to manage. The office of treasurer is now only an honorary appointment.

*General Economy.* The head master performs the duties of the house-governor at Heriot's, and the matron that of both matron and stewardess. They each receive, in advance, a sum for incidental expenses, of which the master renders an account to the visiting committee, and the matron to the master. The contractors for supplies render their accounts quarterly to the head master, who examines them, and if approved, hands them over to the treasurer.

There are two porters, one of whom must be a tailor. He is a married man, and his wife receives an allowance for keeping the gate. The porters in turn have charge of the boys at play hours, of their rising and going to bed, and one superintends their bathing while the other sends them by sections to the bath.

*Admission, &c.* These boys are, in general, sons of persons who have had more cultivation than the parents of those who are the objects of Heriot's bounty; more is required of them

* The income is now between thirty-three and thirty-four thousand dollars.

for admission, and they are older when they enter.* Those teachers who knew both institutions, generally thought that the greater docility of character observable in the pupils of Watson's Hospital, resulted from their better parentage; but I confess that this idea made little impression on me, as the different management of the boys in the two schools would be likely to produce the very results which have given rise to the supposition. The requirements for admission are reading, and a certificate that the child has been one year at school if admitted at seven, two years if admitted at eight, and so on up to eleven, the greatest age at which he can be received. The pupils may thus remain in the school eight years or only four, being required to leave it at fifteen. The less age at entering is in favour of Heriot's; but it must be considered that the boys at Watson's are, in general, those who have a parent, or parents, and may have been well though humbly brought up before entering. I am, therefore, disposed to think that we may reason upon the results produced in the two houses as though the circumstances, in reference to the pupils, were originally the same.

The objects to be attained are, however, very different. These boys are intended to be educated as merchants, or for professions. The records which I was enabled, by the kindness of the head master,† to consult, showed that out of ninety-four boys who were apprenticed on leaving the school, fifteen were indentured to merchants, twenty as clerks, nine to professional men, six to occupations of other kinds, and forty-four, only, to tradesmen or shopkeepers. In Heriot's, the number apprenticed to tradesmen or shopkeepers was in the proportion of

* The following certificates are required to be presented with the application for admission. 1. That the father or grandfather of the applicant was a merchant, or brother of the guild, from the dean of guild. 2. Of indigence, from two respectable individuals, besides the minister of the parish, and the kirk-session. 3. An extract from the register of birth and baptism, certifying the age. This provision excludes illegitimate children. 4. Of the time which the boy has been in school.

† The Rev. Mr. Munro.

eighty-five out of ninety-four. This leads us to consider the kind of education which is given for the principal object of this institution.

*Intellectual Education.* It seems to me that the regulations recognise the principle that certain branches may be less useful for particular pursuits than others; and yet, the instruction varies from Heriot's only in being rather higher, in carrying the pupil further in classics, both in Latin and Greek, and in geography and history. The modern languages are not more particularly insisted on, and the courses, in general, in the English branches, arithmetic, &c., are not very different from those in the other school, though they seem rather better digested.

There is the same over-working of the pupils with a similar effect, a fact which I found admitted by all the masters, though, as they had a certain course to teach, and on the average but six years for its accomplishment, they saw no remedy. The same over-tasking of the masters, and low salaries, lower, indeed, except in one case, than in Heriot's, on account of which changes were frequent. There is, further, the same injunction to celibacy. The teachers are here promoted in rotation; and, although the head master had been but three years in the institution, he had passed through the two subordinate stations. This regular promotion has several very good features, as applied to the two subordinate masters; but, in reference to the head master, it produces unfavourable results, as he is required frequently to give instruction in branches to which he may not previously have attended. With one hundred and eighty boys, as at Heriot's, the discipline and superintendence are sufficient to occupy one person exclusively: but such is not the case with the limited number of pupils in this institution. There are, here, three resident masters for seventy-six boys, and in Heriot's, five for one hundred and eighty, the advantage being on the side of this school. The resident teachers instruct in classics, English, and mathematics, the latter courses being under the charge of the head master, who also teaches the elements of chemistry. The pupils are divided into three cor-

responding classes. There are no formal meetings of the masters as a board, but the three have similar duties, and take turns each in superintending the pupils at meals, in the dormitories, and, in general, at play. Further, the head master is neither raised above the others by being a governor, nor by various minute regulations, as at Heriot's, and hence all work more harmoniously together. There is a peculiarity well deserving of notice in regard to the courses here, and I have seen the same in several flourishing institutions of the continent. The courses and text-books are not permanently laid down, but every year are passed upon by the education committee of the governors, on the presentation of a list by the head master. The programme is, in fact, made out after consultation with the other masters; but there is no regulation requiring the head master to advise with them, which, as a matter of duty, and not of his own pleasure, he ought to do. That this revision is necessary every year may be doubted, but in an old established institution, where routine is prone to take the place of reasoning, and where it is so difficult to keep the courses up to the actual level of education in general, it may be fairly assumed that the error, if any, is on the proper side. The prizes for intellectual effort and conduct are quite high in this establishment, and their effect is considered to be very great. They consist in the distribution of about £20 ($100) in books, after the annual examination; the inscription of the name of the boy, who is distinguished in most of the classes for correctness of conduct, on a tablet in the governor's room; and in allowing those who are fit to pursue the course of the university, one hundred dollars for four years, to attend there, and eighty-five dollars for two years subsequently, their examinations and conduct being satisfactory to the committee on education. Unmarried pupils of the age of twenty-five years, who are not provided with capital to commence business, may receive from the governors, on presenting satisfactory testimonials, two hundred and fifty dollars. Thus encouragement is held out to merit long after the pupils have left the protection of the *alma mater*. Those who are apprenticed to lawyers, surgeons,

&c., are enabled, by a like liberal policy, to pay the large fees required in such cases.

*Moral Education.* I have already hinted that I consider the relation existing between the teachers and boys at George Watson's to be an agreeable one. The general system by which this result is produced depends, in part, upon the regulations, but essentially upon the personal character of the masters. Frequent walks are taken under the direction of the masters, depending upon the previous good conduct of the whole school. Ten or a dozen boys are invited to take tea in the teacher's room during his term of duty as house-master, the expenses being defrayed by the institution. Encouragement is given to their sports, to gardening, &c. A prize for good conduct is bestowed by the boys themselves, and, in fine, there is a general endeavour to substitute the influence of the good opinion of the instructors for artificial stimulus to intellectual exertion and good conduct. Though the punishments approved are mainly the cutting off of indulgences, yet flogging is allowed; the article in reference to the corporal punishment in a "public school" at Heriot's, in regard to which I felt constrained to remark, is here so far modified, that the head master's presence in a *private* class is the necessary formality.

Those pupils whose conduct has been satisfactory during the week, are allowed, under certain regulations, to visit their parents or relatives every Saturday. The teachers believe, from observation, that these frequent visits are of service; their conclusions, however, depend much, no doubt, upon the average character of the relatives of the boys.

*Physical Education.* Regular gymnastic exercises have never been introduced here, but the boys are supplied with balls, battledores, &c., and receive lessons in dancing. Their excursions in summer for several days, frequent walks, bathing once a week, cultivation of gardens, and habitual cleanliness, keep them in general good health. The arrangements for clothing*

* The boys wear green jackets, or roundabouts, the elder ones with a vest of the same, the younger with the jacket and pantaloons buttoned together. Cor-

and diet are, in the main, the same as at Heriot's. They are, however, more troubled here with eruptions on the head. Some institutions are much annoyed by this scourge, which requires almost absolutely the separation of the infected from his class-mates. The cultivation of gardens is encouraged by an annual prize; the gardens are divided into four parts, and each one given to an individual of the same class; the four thus in partnership compete with the similar divisions into which the school is distributed.

There is a vacation of six weeks after the yearly examination in August, during which one of the masters remains in the house, with such pupils as have no friends to receive them, or who, from other causes, do not leave the establishment.

The dormitories, in general, are not well arranged. Two boys are placed in each bed, and the rooms locked up at night, the head master having the keys. If a boy is sick, there is a bell to summon assistance. These arrangements appear to me to be very defective. The bedsteads are of iron, and answer extremely well.

## JOHN WATSON'S INSTITUTION.

This is the most recent school of its kind in Edinburgh, having been organized in 1828, and thus the experience which it furnishes on certain points must be most valuable to the board. One of these is, the expediency, and, indeed, the necessity, of the gradual organization of an institution; and the other, the propriety of leaving the regulations relating to details to be tried in the actual circumstances of the establishment before enacting them into laws. By following out these two ideas, this institution has been organized, brought under its present

duroy pantaloons. Leather caps for the house, and cloth for the street. These leather caps, which fit closely to the head, are very injurious, tending, apparently, to produce diseases of the head.

The clothes are marked, not only with a number, which the boy receives at entrance, but with his name: the effect of the latter provision, in securing to the boy his individuality, is not to be neglected.

good regulation, and its numbers increased to one hundred and sixteen pupils,* with very few unpleasant circumstances. It cannot, however, be said to have yet taken its ultimate form, and I feel persuaded that many modifications will still be made in its arrangements.

*History, Building, &c.* This establishment, for the education of destitute children from any part of Scotland, was founded from funds† left by John Watson, of Edinburgh, a writer to the signet,‡ in the year 1763. The present capital is chiefly in bank stocks, and exceeds three hundred and fifty thousand dollars; the yearly income is about fifteen thousand dollars. The building is situated a little out of the city of Edinburgh, towards the northwest, occupies a high and healthy position, and is surrounded by grounds neatly laid out, having a garden in front, and in rear play grounds for the children, and a bleaching ground. It is a neat structure, with a centre and wings, the centre having in front a Grecian Doric portico. One of the wings is appropriated to the accommodation of the girls, and the other to that of the boys, with some few exceptions. I shall speak only of the boys' accommodations. The interior is commodiously arranged: the basement contains a play-room for wet weather, a bathing-room, laundry, refectory, kitchen, pantry, masters' offices, and parlour. This play-room is almost an essential, as the school-rooms should not be used for that purpose, and, in bad weather, the children must have cover either in or out of the building. The bath is well arranged. Between the kitchen and dining-room is a convenient turning-box for supplying the food, transferring the plates,

* Of these, nineteen have lost both parents, seventy-two father, one mother, and eight have both parents alive.

† The original object of the testator was a foundling hospital. Convinced of the evil of such institutions, a change in the objects of the bequest was petitioned for, and made by Parliament.

‡ Attorneys entitled to practice in the highest civil and criminal courts of Scotland, and forming the society of "Clerks or Writers to the Signet." The title is derived from the fact that it is one of the privileges of these attorneys to subscribe the writs which pass the royal signet in Scotland.

&c. On the first floor are the rooms of the master and assistants, of the governors, the chapel, and three school-rooms. An attempt has been made to heat the house by warm air thrown into the entries, but this has not been effectual; the school-rooms are cold, and the temperature cannot be kept up except at the expense of the ventilation. The second floor contains working-rooms for the boys, dormitories, rooms for the sick, and offices, matrons' apartments, &c. The whole house is lighted by gas, and is supplied with water from the city works, two most important conveniences, which I found highly appreciated by those who had previously been without them.

*General Government and Domestic Economy.* The general government is vested in fifteen trustees, of whom three go out every year in rotation; they are elected by the commissioners of the writers to the signet, and meet regularly but three times a year. They have a treasurer, a clerk, and assistant, as permanent salaried officers, and are divided into visiting committees of two, who are expected to visit the hospital every fortnight.

The officers recognised by the regulations are: a master and one assistant, a matron, a surgeon, and a steward. The master* is responsible for all the in-door concerns, superintending the boys more particularly, and having the religious instruction specially under his charge. The matron has the care of the girls, and attends to the housekeeping concerns. The master keeps a petty expense book, a waste-book, and ledger, and the matron a book of disbursements for housekeeping. The surgeon visits the institution regularly twice a week, and comes also whenever sent for.

The servants of the house consist of a porter, two nurses, three house-maids, four chamber-maids, one cook, and an assistant. The porter has charge of the gate and grounds, calls the boys in the morning, superintends them while washing, morning and evening, at play, and when they bathe, and assists at meals.

* The present head master is the Rev. Mr. Marshall, to whose kindness I am indebted for information relating to the institution.

One of the nurses attends specially to the cleanliness of the younger boys, and in general to the police of the elder ones. The annual average cost of the maintenance and education of each child is about one hundred and nineteen dollars. The uniting of the two sexes in one establishment for education, however favourable it may be at a very early age, is afterwards attended with so many difficulties, some of which are insurmountable, that the governors of this hospital have gradually diminished the number of female pupils, and the head master would gladly see the establishment divided into two, neither the instruction nor discipline which is suitable to one sex answering for the other.

*Receipt of Pupils and their Discharge.* The pupils must be between five and eight years of age at entrance; and it is very perceptible that the early age at which they are received is a decided advantage to this institution. Their pliability and exemption from bad habits are conditions which should not be lost sight of. At the opening, twenty-five boys and twenty-six girls were admitted, and when they were trained during a year, a further admission took place. Notwithstanding the great care thus exercised to begin properly, and the abilities of the master, who excels in the kindly character most likely to win upon a child, the training of these twenty-five boys was not effected without much difficulty, and, in fact, three of them were expelled during this year. The first set being well trained, the others have fallen gradually in with the example of their elders, and no further expulsions have been necessary, though seventy-nine boys and sixty-six girls have been since admitted, up to 1836. In fact, the institution was begun on *too large a scale*, limited as its organization may have seemed.

The admissions are made on petition to the governors, setting forth the destitution of the child, to establish which it is necessary to show that its parents or friends have not the means of furnishing a good education. The petitioners must include in their number a commissioner or writer to the signet. There are no requirements of previous instruction. Illegitimate or

diseased children, are not received. The pupil is first admitted on a week's probation, and if his moral and physical condition appear suited to the institution, he is then fully admitted; if not, his friends are bound to withdraw him. The pupils leave it at fourteen years of age, and there is no provision whatever for their subsequent superintendence or advancement; if the children have friends who can take care of them, this is no great hardship, but such children do not seem to be the proper objects of charity. That the orphan should be thrown upon the world at this age, with ten pounds, and a Bible, does not seem to me judicious, and this part of the out-door establishment I should regret to see imitated. The result has been, I was informed, to induce the selection of children of persons who have occupied higher stations and are reduced, in preference to others more destitute. Thus, out of ninety-eight children, the parents of twenty-two belonged to professions, forty-three followed other avocations, and thirty-three were tradesmen or shopkeepers. I am fully persuaded of the very great importance of keeping up a connexion until a later period of life, between the child and the institution, though it may be necessary to apprentice him to a trade at fourteen or fifteen years of age; and in a future part of this Report the practice in reference to this, of some of the orphan-houses of Holland, is fully explained.

*Intellectual Education.* The course of instruction proposed by the head master is very comprehensive; indeed, much more so than I believe the time will allow to be carried through, without distracting the mind of the pupil by the diversity of subjects presented to his notice. This plan of instruction is an extension of that at Heriot's, and offers a very systematic arrangement of the branches, and a detailed distribution of the time. (See Appendix, No. V.) Only a portion of the plan, however, is executed, and I am satisfied that such must continue to be the case, unless an arrangement is made by which different trains of instruction shall be pursued by different sets of pupils, according to their mental development and

probable pursuits in after life. The course includes spelling, reading, grammar, composition, writing, plain and ornamental, arithmetic, algebra, book-keeping, geography, general and particular, modern and ancient, history, modern and ancient, drawing in pencil, chalk, and colours, of maps, &c., the elements of natural philosophy and chemistry, and of natural history, geometry and mensuration, surveying, and the elements of the Latin and Greek languages.

The statutes of the school provide for the appointment of two teachers only, the head master and an assistant. It has been found necessary, however, to have, besides, two sub-assistants, one for each of the three classes into which the boys are divided, the head master exercising a general superintendence of the whole, and teaching only occasionally. To render comparison of the proficiency of different classes more easy, they all recite upon the same branches at the same time, as far as practicable; thus, for example, all the classes are engaged in arithmetic or reading, &c., at one time, and the head master passes from one to another to obtain an idea of their comparative progress. The present sub-assistants are young men, who have been brought up in the institution, and both, I believe, are attending the lessons of the high-school, preparatory to entering the university; the assistant was educated at Heriot's. Each teacher has, in general, charge of one class in several different branches, according to the method now practised in the best schools of Germany. In the other schools which I have spoken of, each master has a subject, or a few subjects, which he teaches, and different classes come before him at different times. This, it is objected, prevents any strong attachment from growing up between the children and the master, of whom they see but little, and who from hour to hour is changed for another. On the other hand, it is contended that a man cannot be equally competent to teach different subjects, and thus his instruction in all the branches is not given to the greatest advantage. It appears to me that both the opinions are true, to a certain extent. That the first principle is entirely applicable to elementary education, and the second to a later period, when

the subjects of instruction become more difficult, and the positive knowledge of the master of more importance; and this happens just at the time when the influence of the instructor would, from the development of the child, necessarily become weaker, and when, if the youth has been properly trained, he is prepared, in a degree, for self-government. Thus each principle is good in its place.

The three classes are subdivided each into three sections, corresponding to the different degrees of progress, and which contain boys, when intelligent and studious, of about the following ages: the first class of six, seven, and eight years of age; the second of nine, ten, and eleven; and the third of twelve, thirteen, and fourteen. The whole number of pupils in 1837 was one hundred and sixteen, of whom sixty-six were boys. Thirty-nine, therefore, composed an average class, which is about the same number as that of a class at Heriot's Hospital.

The head master is here very far removed in duties, privileges, age, and compensation, from the under teachers, presenting the opposite system from that adopted at Heriot's and George Watson's, of bringing together several experienced teachers of a standing similar to that of the head master. The plan in use here has some advantages in regard to moral education and discipline, where the number of the pupils is not large; but the other, I am satisfied, produces much better results as to intellectual development.

*Moral and Physical Education.* It is exceedingly difficult to ascertain what is the essence of moral discipline, for, although the regulations in regard to it may be the same in two institutions, yet the practice under these may differ very widely. Kindness or severity of manner and disposition, in enforcing a rule, may render it practically either gentle or severe. The regulations here do not differ much from those of Heriot's or George Watson's, but the air of family life pervading the establishment cannot fail to strike every observer, while, in the others, especially in Heriot's, there appears to be more formality of discipline; and yet, in all three, the rules of the institutions

are adhered to. This is one of the cases in which the teacher may make or mar a system. The means of promoting good conduct are here as in the other schools; for rewards, the approbation of the teachers, increased opportunities of amusement, social parties at the master's, and prizes; for punishments, admonition, flogging, and expulsion. There are offices of superintendents in and out of school, in the dormitories, &c., which are considered also as rewards, and which work well under close inspection, and by frequent change of the boys in authority. Small sums of pocket money are given by the head master, at his discretion, to the boys, and the supplies from parents or friends must be deposited with him for distribution. Two principles are adopted by the master in administering the regulations, which, probably, more than the laws themselves, lead to the state of things I have endeavoured to describe. First, small indulgences now and then prevent the necessity for grave punishments often repeated; and second, punishments must be so applied as never to produce in the subject of them the feeling that the measure of the fault has been fully paid; but, on the contrary, so as to satisfy him that something has been forgiven.

The religious instruction does not differ materially in amount and kind from that already described.

There are no regular gymnastic exercises, but in the intervals of recreation the children engage in a great variety of games, the implements for which are furnished by the master, and in which the teachers frequently take part with good effect. The deprivation of these sports is made a means of punishment. The loan of materials for play, such as marbles, &c., obviates an objection sometimes urged to certain games of skill, viz. that they produce a sordid habit and love of gaming. The pupils walk out frequently, accompanied by a teacher, make "pic nic" excursions, and celebrate particular days.

Cleanliness is carefully attended to; the face and hands are washed morning and evening, the feet once a week in winter, and oftener in summer, besides which the boys bathe; on these occasions the pupils are attended by a teacher and the porter.

The arrangements for washing are not good; basins of tinned copper have been tried, which do not answer well, and a trough is required for the feet. Inspection is made every morning in regard to cleanliness, and the due order of their dress. Scald heads are frequent as at George Watson's, and the same means of eradicating and preventing the disease from spreading, are employed. The leather caps in use fitting closely to the head, contribute, I doubt not, to the complaint. The diet is the same as at Heriot's, except that here nothing is taken in the intervals of the regular meals. The two sub-assistants eat with the boys.

The pupils do no menial offices in the house, except that of cleaning shoes, which is done for the whole family by a certain number of the elder boys in rotation, who rise earlier than the others for this purpose.

Each boy has a separate bed, except in the dormitories for the youngest, where there are two in a bed, and of which a nurse has charge. In the other dormitories, one of the sub-assistants sleeps, or one of the elder boys has charge of the dormitory, and the assistant sleeps near.

The clothing is similar to that at George Watson's. The leather caps are, however, to be laid aside, and cloth ones substituted.

*Order of the Day.* The order by which the distribution of duties is regulated, presents peculiarities, in the succession of study and play, well worthy of attention. The following is for the winter season. The pupils rise at seven; from seven to half past, washing and dressing. Half past seven to eight, have prayers. Eight to nine, school. Nine to quarter past nine, breakfast. Quarter past nine to ten, play. Ten to half past eleven, school. Half past eleven to twelve, play. Twelve to one, school. One to half past one, dinner. Half past one to three, play. Three to five, school. Five to six, play. Six to seven, school. Seven to a quarter past seven, supper. Quarter past seven to eight, play. Eight to half past eight, prayers. Half past eight to nine, wash and go to bed.

The happy effect of the judicious variety in study and exer-

cise, and of the moral discipline of this institution, are proved by the cheerful character of its pupils, and their general health and spirits. The hours of study in this plan are six and a half, and of play four and a half, during the day of fourteen hours, while at George Watson's they study nine hours, and even sometimes more.

There is a vacation for about four weeks in the month of July, and the children may be visited once in three weeks by their parents, for two hours at a time. The master here is confident as to the bad effects of allowing the children to leave the institution, for the purpose of visiting parents or friends; in regard to which, however, I have nothing new to remark.

## CAUVIN'S HOSPITAL.

This institution was founded in 1832, pursuant to the Will of Lewis Cauvin, a teacher of French, in Edinburgh; and is intended for the education and maintenance of the sons of teachers and farmers. As the founder was himself a teacher, and the want of seminaries for teachers was most deeply felt in Scotland, the trustees of Cauvin's determined that the new institution should contribute, as far as practicable, to the supply of this want.

The children enter between the ages of six and eight years, and nearly all those now in the institution have been there about four years; the twenty pupils required to complete the foundation* having been admitted at once. It is not possible at this early date to draw a positive inference as to the success of the school, and especially of its primary object. The character of the trustees may, however, be considered as a guarantee for the first, and, in reference to the second, there are already indications that three or four out of the twenty boys now in the establishment will probably have a disposition for the profession towards which it would incline them. It may be important to remark, that as these boys can only be at the charge of the school until fourteen years of age, and as this is

* The income is about five thousand dollars per annum.

too short a time to complete their education, those who are most promising will perform their novitiate as teachers in the hospital, thus continuing their education, while they serve as instructors to those younger than themselves.

I shall recur to this topic, of the use of orphan-schools as seminaries for teachers, in speaking of the Orphan-house of Hamburgh. Our country is one that especially calls for every effort to interest well educated young men to adopt a profession, the proper exercise of which is of such high importance to our future prospects and the permanency of our institutions.

The implements of instruction in this establishment are better than in any other of the same kind which I saw in Scotland; they have obtained the most approved maps, &c.,* from abroad as well as at home, and have already the rudiments of a collection of natural history.

I have appended certain documents, relating to the form of application for admission to this school, (Appendix, No. VI.,) which may be useful for reference.

### LIVERPOOL BLUE-COAT SCHOOL.

This institution, in point of order and regularity, is one of the best which I have seen; and, as a study of how far an establishment may be carried on by the force of routine, interested me very much. At the time of my visit the head master was absent, and the boys' department was entirely under the charge of a young teacher, formerly a pupil of the school. This circumstance was very favourable for judging of the point to which I have just referred. The arrangements have a military precision about them which is very striking; and if the object of a school were to perform, as much as possible, with very limited means,† the organization of this one would serve as an

* These collections were made under the direction of Professor Pillans, of the University of Edinburgh, one of the trustees, and to whose influence is mainly due the direction given to the studies of the youth in Cauvin's institution.

† Each child costs for maintenance and instruction less than fifty dollars per annum. At the Orphan Hospital at Edinburgh, each costs between sixty-five and seventy dollars. At John Watson's one hundred and nineteen, and at Cauvin's two hundred and fifty dollars.

excellent model. Though successful in producing a considerable effect upon the pupils in general, the means of individual education are to be found in the subsidiary arrangements of the school, and not in its general system. In regard to instruction, it affords a good example of that division of the system of mutual instruction which originated with Dr. Bell, whose precepts and practice, as contained in his Manual, are mainly followed. While the Scotch schools which I have described have obviously borrowed something from each other in their arrangements, this institution is in a totally different sphere, both intellectual and religious.

In the regulations, every case which has occurred, or which has been foreseen, of violation of discipline, or interference by parents, and the like, has been provided for by formal rules—a plan, the expediency of which I much doubt. The punishment of offences against morality may be provided for by general regulations, and cases of interference on the part of parents, by vesting discretionary power in some of the authorities of the institution. The regulations required by a contrary course, if read to the school, must suggest many offences otherwise not thought of. In the progress of the institution, the decisions of cases actually occurring will establish precedents which supply the place of a more formal code of rules. Power must be lodged somewhere, and by investing chosen agents with it, the trustees of an institution may be almost certain that it will be exercised with knowledge, and the power of revision, on appeal, must of right be theirs.

*History, Buildings, &c.* This institution was founded by voluntary subscription, in 1708, and assumed something of its present form in 1717. It is intended to give education and maintenance to destitute children, who have lost their parents, or whose parents have been reduced in life—these children to be taken from those "above the lowest class in society."

It is managed by a board of trustees,* whose executive officer is the treasurer, who, though an honorary officer, is

* Three of these gentlemen were formerly pupils in the institution.

nevertheless expected to attend both to the out and in-door management. The head master is the chief within doors, and is assisted by a matron and female teachers for the girls, and by three assistant masters for the boys. A surgeon and physician* are the only other officers. The assistants take turns in superintending the boys when not in school, and seeing that they go through the routine of the day. All attend in the refectory for the preservation of order, and to ascertain that the wants of each pupil are duly supplied. They also, in turn, attend the boys in their walks, and sleep in rooms adjoining to and having a view of the dormitories.

All the boys' classes are united for instruction in one long room, the whole being under the charge of the head master and senior assistant, and each class being taught by its assistant master, or by the pupils appointed to act as teachers. Frequently the hearing of lessons is delegated to these pupil-teachers, the master having previously prepared the class by explanations intended to remove difficulties from the way of private study. At other times, the master hears the lesson himself, or is present when the pupil-teacher hears it, or goes over the ground with the class, after the teacher has done his part. A class is sometimes divided, the master taking one part and intrusting the other to the pupil-teacher, and then changing the divisions. As the higher classes have respectively seventy, ninety, and forty members, it would be impossible for the master, alone, to instruct to any advantage. The youngest class, on the contrary, is quite small, and always in the hands of a junior master. Although the system of mutual instruction, which was first applied by Doctor Bell is, in general, followed, it is, as may be inferred from the details above presented, in a modified form, with a considerable share of the personal attention of the masters in teaching.

The place of a pupil in the class depends upon the answers which he gives in the recitations, and upon his conduct, a fixed

* On an average, in this institution, there are four sick per week, in the whole number of two hundred and fifty boys and one hundred girls, and one dies in the course of three years.

system of rules being adopted in regard to every circumstance which can cause a change of place during a lesson. In the lower class, the places are registered every day, and the average at the end of the quarter gives the standing. There is a general new classification of the school every quarter, and those who are fit for a higher class are then promoted. When, however, a pupil is remarkably superior to the rest of his class, he is promoted without waiting for this term. The system of emulation thus adopted, is supposed to excite considerable diligence. It appeared to me to do so really on the part of a very few near the head of the class, who had the competition for honours before them; but below the middle it did not produce any effect until towards the lower end, where its results were evidently bad.

I found all the intelligent persons connected with this institution so thoroughly convinced of the efficacy of the monitorial system, that I paused in drawing conclusions in regard to it until I had compared this school with others upon the same or a similar system; it is, however, one of the best examples which I saw of the Bell or Madras system, or, rather, of a modified form of it. The gentlemen above referred to are convinced that the pupil-teachers are not only competent to give instruction, but that they frequently communicate it in a more intelligible form than teachers who are further removed by age and knowledge from the boys; that the emulation among the pupil-teachers of different classes induces their pupils to exert themselves more than if under the charge of the master, and that the pupil-teachers are sufficiently exact and impartial in administering the rules of discipline and instruction. I state these opinions broadly, not wishing to conceal that the views of others, who have experience in the matter, are adverse to my own. I observed as closely as my opportunities would permit, here and elsewhere, and came to the conclusion that, in communicating knowledge not merely mechanical, the pupil-teachers are generally at fault, that they fail to keep up the attention of the pupils, and to preserve order among them, except in presence of the master, and that they do not always deal impartially in administering the rules. It is true, that if a class

of ninety is to be confided to one master, monitors may be usefully employed to prepare the pupils for him. A similar plan is pursued at the best school on the Bell system which I have seen, the Madras College at St. Andrew's, Scotland. Further than this, I do not believe that monitors can be usefully employed, and where the means of procuring a sufficient number of good teachers is not wanting, I would not at all recommend the use of the monitorial system in imparting instruction.

The branches taught in this Blue-coat School are in accordance with the destination of the boys in after life. They consist of spelling, reading, writing, mental and written arithmetic, English grammar, geography, the history of England, elements of astronomy, the catechism and religious doctrines of the Church of England, and the singing of church music. A few pupils receive instruction in geometry and music, and those who show a disposition to become teachers have the means of additional study and of preparation, by being apprenticed as masters in the school. The opportunity of drawing from engravings is also furnished.

Much time is devoted to the mechanical branches of general instruction, such as writing, making printed letters, and drawing maps, &c. More than nine hours per week are given up by the eldest class to such objects, besides those devoted to printing in the evening. The pupils are so fully imbued with the desire to succeed in these pursuits, that as an expedient to induce a preparation of the reading lessons, those only who have read well are allowed to attend the writing exercises.

It has been found advisable to vary the subjects of their reading lessons very considerably. Formerly the Bible was the only book used for reading, and beside that the associations with it as a text-book appeared not to be favourable to religious impressions, the pupils became so used to its phraseology as not to be able to read understandingly other works, although they could read this with tolerable fluency.*

* This fact comes from a source above all suspicion.

The very useful exercise in the Madras system, in which the pupils question each other, is well carried out in this school; every boy thus must ask as well as answer questions. It, however, offers considerable practical difficulty. Some hold back from diffidence, others from fear of showing ignorance by their questions, and others are incompetent to it from ignorance of the subjects.

*Moral and Religious Instruction.* One of the things which struck me most on my first visit to this school, was the extensive acquaintance with doctrinal religion which the boys of the eldest class manifested. My surprise was removed, however, on learning the method by which this result was obtained, and which consisted in devoting the morning hours of winter, and at other seasons when the weather did not invite to a walk, between rising and breakfast, to learning commentaries on the doctrines of the Church of England, commencing in the fourth class with the Catechism of the Church of England,* the collects, prayers, &c.; continuing in the third class with the explanation of the catechism; in the second, with committing to memory the chief doctrines of the church; in the first, with committing the references by which the doctrines are supported. I felt bound to examine faithfully the question whether this was a mere intellectual effort, or whether the Christian truths thus inculcated made an impression upon the hearts of these children; and I regret to state that I was forced to the conclusion that, in the greater number of cases, the heart was little affected by what the tongue repeated, and the intellect assented to, and this conclusion was in accordance with the result of my inquiries. It is true that the seed thus planted may lie hid to germinate in after life, and this, no doubt, sometimes occurs; but, as a general rule, the measure is found to be unproductive, as far as its immediate effects have been observed.

* There is no qualification as to the religious sect to which the parent or pupil belongs, in regard to admission; but he is required to conform, when admitted, to the forms of the Church of England.

The religious services in this school, on Sunday afternoon, are very remarkable for their order and decorum. The pupils are marched into the room, and receive from the leaders of their divisions their books as they file off to their places. The prayers are prepared for the school, and are read by one of the pupils, appointed as a mark of approbation. The singing, which is respectable, is accompanied by an organ played by one of the teachers. The psalms and hymns are given out also by one of the boys. A monitor puts part of a class through the catechism. The services are thus from beginning to end carried on by the pupils, with the exception of the assistance in music by the master. The treasurer, and frequently others of the trustees, attend these services, and the parents or friends of the pupils are admitted on presenting a ticket from the treasurer.

The rewards for good conduct are, the approbation of the teachers, permission to read the books in the school library, of which there is a very judicious selection, offices of trust in the school, and recommendations to situations after leaving the institution. In regard to the use of the library, which I found a very strong incentive in this school, I would offer a remark. When a judicious selection of childrens' books has been made, and it is found that there is no desire to read them, the instruction is radically defective. Few children care to read what they do not understand, and, if taught merely mechanically, the books selected for their use will be unintelligible, and hence uninteresting to them. The amount of use, therefore, of the lending library, is a test of the thoroughness of the instruction, and of its being of the explanatory sort. There may, of course, be exceptions to this rule, arising from the over-employment of children at other work, by which they are prevented from using the books, and from other causes; but I speak now of the general rule, which I found most fully proved by numerous observations.

There are vacations of two weeks at mid-summer, and of a week at Christmas.

No punishment other than the position in the class is applied

for not being on a par in recitation with others. For a somewhat serious offence, a boy is "put into Coventry," and his classmates, when seeing this badge of punishment, are not allowed to speak to him.* Corporal punishment is used, but the rod is not habitually in sight as a motive to exertion. Immorality is punished by flogging, and, if not amended, by expulsion.

*Physical Education.* There are no regular gymnastic exercises or amusements, but all the pupils are taken frequently to walk for exercise, and, during the course of the morning school, which lasts from nine to twelve, each class has, separately, a few minutes of recreation, being marched into the court-yard, under the charge of the monitors. The play-ground is not very large, and is paved with round stones, and there is a covered way on one side for wet weather, an indispensable appendage to such an establishment: under this each boy has a box in which he may keep his ball and other play-things. The menial duties of the house, and some of them in rotation, are performed by the pupils; they serve the table, wait upon it, clean their shoes and clothes, make their beds, &c., and are nearly independent of the use of servants: in my opinion, an admirable regulation. One of the boys even acts as porter, which, as it is a responsible and profitable situation, is made a reward for character, and is attended with certain perquisites, matters of custom in those countries, but inconsistent with the ideas entertained in ours.

The allowance of clothes, linen, &c., is the same as in the Scottish institutions. Three shoemakers are constantly employed in making and mending shoes for the pupils. The girls knit the boys' stockings, and make up their linen, and the mending of clothes, &c., is done by persons residing in the house.

The diet is very plain, but wholesome.† The entire cost of the food for each child is about forty cents per week, or less

* The use of any badge or mark of this sort is liable to the same objection as all other *public* punishments, upon which I have already remarked.

† The cooking operations, commonly performed by boiling, are all done by steam.

than six cents a day. A table of diet is subjoined in the Appendix. The supper, consisting of cheese and bread, is distributed in the refectory, and taken to the school-room to be eaten, the water being previously drunk at the table; a custom which produces several inconveniences.

The arrangements for washing are by no means convenient, the boys using the wash-room for this purpose morning and evening, and the hydrant in the yard after dinner and supper. They occupy two dormitories, overlooked by windows from the tutor's rooms. The bedsteads are of wrought iron, the mattresses of straw. Two boys occupy the same bed, a plan upon which I have already commented.

The pupils sometimes march to and from the refectory to the sound of music, and a very tolerable band of fifers has been formed from among the boys.

### HENSHAW'S HOSPITAL, OR OLDHAM BLUE-COAT SCHOOL.

As this institution is modelled upon that of Liverpool,* of which I have spoken somewhat in detail, I shall offer merely a few remarks upon certain topics connected with it, which seem to me of interest. The foundation results from the will of Mr. Thomas Henshaw,† a hatter, of Oldham, a manufacturing town near Manchester, who left, in 1810, the sum of two hundred thousand dollars to endow a "Blue-coat School." This endowment now amounts to nearly four hundred thousand dollars, and the school has a revenue of near eleven thousand five hundred dollars, for its support. By the will of the founder, no part of this money was to go to erect a building for his school, and if the town of Oldham did not raise the funds for that purpose, Manchester was to have the option to do so.

The sum required for the building was, however, nearly all raised in the town of Oldham, and much of it among the workmen of the different manufactories, who clubbed together when

* The head master was brought up at that school.

† This same charitable individual has also left a fund for the education of the blind.

their separate donations did not seem of sufficient amount to be presented singly. The building, in the Elizabethan Gothic style, is now the pride of the citizens of Oldham, who have erected it.

The interior arrangements, of which I have procured the plans, are of unequal merit. Those connected with the diet, clothing, and cleanliness, are good.* The attempt to heat the house by the circulation of hot water has not proved successful. The school-room is covered with an arch, and the reverberation has been so annoying as to render it necessary to hang it with cloth. This is done in the compartments of the Gothic vaults, two pieces of cloth being stretched across at right angles to the axis of the arch, and others intersecting each other, so as to form a St. Andrew's cross: the appearance is not bad, and the remedy is effectual.

This institution was opened in 1834, when fifty boys were admitted between the ages of nine and ten. There are now (1836) two hundred boys, and the funds will probably support more than this number. The difficulties of organization were very great, owing to the late age of the pupils, and especially to the number introduced at the opening of the school. Nearly the whole time of the head master has been, heretofore, so occupied in arranging the details of maintenance and discipline, that he has been able to give but little attention to the instruction, which, though the institution had been in operation upwards of two years when I visited it, was by no means in the condition which he desired. These difficulties must have been much lessened by the fact, that the model of the Blue-coat School of Liverpool was followed as closely as possible in all the arrangements; that the master was educated there, and had to apply his knowledge under very similar circumstances. Notwithstanding this, the task has been very great, and the lesson it teaches ought not to be lost upon us. It was one of the examples which induced me to express myself strongly in regard to this point, when describing the organization of John Watson's Hospital; the tenor of the

* All those connected with the kitchen and laundry are very good, such as steaming-kettles, washing-machine, drying-closets, mangle, &c.

results being the same in these two cases. It is so difficult to unmake, that a preparatory system for the trial of a plan, by which the development may be gradual, and mistakes avoided at the final organization, must be very desirable. The wish to begin an institution on a scale commensurate with its future entire organization, is a natural one, but it should yield to the lessons of experience, which have every where shown that a small beginning is preferable. It is easy to train a few pupils, and those who follow are influenced by their example. In a novel undertaking, the teacher, though of well tried skill in a different school, requires also training in this. Finally, the regulations which work well elsewhere, may require modifications which experience only can point out. If legislation and counter legislation would be avoided, the rules should be tried upon a scale which permits close observation of their results. The application of laws deduced from practice elsewhere, under new circumstances, can only be guided by theory, and should be considered as theoretical, and, therefore, the laws themselves cautiously introduced.

### LONDON ORPHAN ASYLUM AT CLAPTON.

The Orphan Asylum at Clapton, near London, presents a set of rules so admirably arranged for the application of an ingenious system of rewards and punishments, that it deserves a detailed examination, which I must, however, preface by a few remarks on the general arrangements of the institution.

This Orphan Asylum is supported by voluntary contributions, and hence derives an income of about forty thousand dollars, upon which are maintained and educated between three and four hundred children.* The immediate control of the institution is vested in a board of managers, elected at the general annual meeting of the contributors. From this board is chosen a visiting or house-committee of twelve, who meet every week at the asylum. They superintend the education

* Actually three hundred and forty-six in 1836, of whom about two hundred were boys. The cost of each pupil for the year, including his maintenance and education, was nearly one hundred and seven dollars.

and household affairs, examine the bills, &c. The charge of such matters as belong to the female department, it does not form part of my purpose to notice. There are two secretaries, a treasurer, who is a salaried officer, and a collector. The building erected for this institution, the plans of which are submitted with this Report, is highly convenient and quite ornamental. It consists of two wings and a retired centre, and the interior arrangements are particularly good. The whole building is supplied with water by a steam-engine in the cellar, and which is used, also, for some of the laundry work. The kitchen and laundry arrangements are, in general, similar to those at Oldham, with the advantage of the use of the steam-engine.

To be admitted to this Orphan Asylum a child must be fatherless, and between the ages of seven and eleven. The application for admission must be signed by a subscriber, and accompanied by certificates of birth, &c., and by a certified statement of claims to admission. The child must be sound in body and mind; and, if any imposition is discovered in regard to any of the statements upon which it was admitted, is required to be withdrawn. Two respectable housekeepers must become securities that the child will be withdrawn, at any time, on the requisition of the board of managers.

Children who have been in the workhouse are not taken, except under very peculiar circumstances. On the payment of one hundred guineas into the funds, the board may receive, if they see fit, a child not belonging to the class for which the establishment is particularly designed. The regular admissions are decided by ballot, a printed form containing the names of the children, their claims, and other particulars, and a convenient mode of voting, being furnished to the stockholders, on application to the secretary.

All the pupils leave the school when between thirteen and fourteen years of age; and, in case of satisfactory deportment, the board of managers very generally procure situations for them, with the consent of their friends, though they do not enter into any obligation to do so. They give, at leaving, a certificate of conduct, and, on examination, one of proficiency, and the child

is furnished with a suit of clothes, and other articles of wearing apparel, a Bible and prayer book, and printed advice on his conduct; receives a charge from one of the members of the board, and, in addition, may have presented to him the sum of fifty dollars. To keep up the connexion of the pupils with the institution, an annual meeting is held, for attendance at which each one receives an honorarium, increasing in amount with the time elapsed since he left the school. From these sums contributions to the asylum are frequently made, for special objects, by the former pupils thus assembled.

The boys are not allowed to visit their friends, except in case of the illness of the latter. They may receive visits between two and half past four, P. M., on Wednesdays, and their friends who wish to pay such visits must apply at the secretary's office for a ticket, which is given, in general, but once a quarter. The house is opened to strangers on Monday, between eleven, A. M., and five, P. M., on presenting a ticket from a manager.

The officers for education and police are, a master and chaplain, the offices being, at the present time, united in the same person;* assistant masters, a matron, and a mistress for the girls. Besides the house-servants, who are females, there is a gardener, who acts as porter.

The master is principal of the establishment, of which he has the entire superintendence, under the house-committee. He gives all the religious instruction, and also teaches, in part, the higher classes in other subjects. He is responsible for the due execution of the plans matured by the board. The assistants are directly under his control, and he has a vote on their appointment, to enable him to exercise which with due care, they are not permanently attached until after a three months' probation. He reports monthly on the state of the school.

The matron is a housekeeper to both departments, hires the servants deemed necessary by the committee, superintends the whole domestic economy, receives the stores, and is responsible

* The Rev. Mr. Heath.

for them. A table is spread in her room, at dinner and supper, for the mistress of the girls' department and the assistants. She is the keeper of all the keys, when not required by the masters.

The assistants not only give instruction, but attend the boys at rising and washing in the morning, at prayers, meals, recreation, washing in the evening, and going to bed, performing these duties in rotation. There is, notwithstanding, no appearance of that family feeling which might be expected to grow out of such an intercourse; probably from the tendency of the regulations presently to be detailed to introduce different feelings. The order of the day in the institution is as follows: The pupils rise at six in summer, and seven in winter. Bedside prayers, washing, muster and inspection, occupy until seven in summer, (eight in winter.) At seven there is school, in summer. At eight, breakfast. Play until nine. At nine, public prayers. From twenty minutes past nine to half past twelve, school. At one, dinner, and play until two. At two, school until half past four. Prayers and play until half past six. Supper and play until half past seven. Muster, washing, bedside prayers, and retiring at eight. In summer they may be kept up until half past eight. They have thus, during one part of the year, six hours and a-half of school daily, and about four hours of play. There are a few regular holidays in the year, and July and August may be vacations for a part of the masters. There are two excursions annually, made under the charge of some of the trustees or masters, by those boys who have merited indulgences.

The subjects of instruction are those belonging to what is understood by a plain English education, entirely adapted to the age at which the boys must leave the school, and the system of teaching is a modified form of Dr. Bell's method.

The diet is plain and wholesome. An abstract of the diet-tables of this and other institutions will be found in the Appendix, No. VII. The clothing is good in quality, and sufficient in quantity, and is admirably preserved under the charge of the excellent matron of the establishment. Rooms are appropriated for the

clothes in use, and they are served out by the boys who have charge of divisions. The cleanliness is superintended by a nurse, who is under the charge of the matron. The continuance of female superintendence over the elder boys seems to me objectionable.

Besides the ordinary sports of youth, which an ample playground attached to the buildings admits, the pupils have a species of gymnastic exercise, from half an hour to an hour daily, out of doors when the weather permits, and in doors at other times. The in-door exercises are calculated to give moderate play to the different parts of the body, and in this respect are better adapted than more violent ones, to the true purpose of gymnastics for ordinary life. For youth, I much prefer an extension of their ordinary sports, when out-door exercise is possible, especially if regulated according to principle, to the violent exercises which are commonly adopted in the systems of gymnastics. I am satisfied that a skilful physician would, by observation, produce something much more adapted to the inclinations of our boys, than the very artificial system of gymnastic exercises; which has, I believe, never permanently succeeded in any institution either in this country or in England.

This account is sufficient to give a general idea of the institution, and I now proceed to a description of its peculiar plan of education, before alluded to, in reference to rewards and punishments.

There are two tables of rewards, the one for petty, the other for great merits. These classes of merits are compensated, the first by rewards in money according to a system, and in a school currency, the second by gifts made at the public examination. Among great merits are considered all cases of voluntary, patient, and persevering labour by a child, whether in the business of the school, or in occupation of his own selection. Corresponding to these are two tables of punishments, for petty and great offences, which are visited, the first by fines, and the second by flogging or solitary confinement.

The ordinary rewards are bestowed, and fines levied in a school currency of tokens, bearing the designation of one, ten,

and twenty mark pieces respectively, and of which ten marks are reckoned at the value of a penny sterling, (two cents.) An account of the issues and receipts of them is kept to prevent barter, and as an index of the general conduct of the school. All cases of exemplary punishment are entered into the master's book. When any pupil has obtained a certain number of marks, he is entitled to present himself before the house-committee, at a monthly meeting, to receive their value in money. As means of using this money are provided—first, a library, to which those who subscribe a penny a month have access, a right to recommend a book for purchase to the master and secretaries of the institution, and a voice in the choice of a boy as treasurer and librarian. The school currency is not received in payment of this subscription. Second, a small shop kept by one of the boys, selected by his fellows for that purpose, at which are sold, at prime cost, articles of stationary, books, useful toys, and materials for drawing and mechanical pursuits. Third, a shop kept by the wife of the porter, where fruit, cakes, &c., are sold.

Those children, on the contrary, who are fined beyond the marks which they have received as rewards, are considered as defaulters, and must by extra work recover their solvency. While defaulters, they can neither hold office among their fellows nor vote for officers.

The boys who have been one entire school year without insolvency, or suffering any of the higher punishments, are considered as "free boys;" they alone are eligible to trusts, and may be candidates for honorary medals. They are, further, entitled to make two excursions a year, with one of the house-committee or one of their teachers. If a boy have lost his "freedom," he may regain it by six months of solvency and exemption from high punishment.

Those who for a year have been remarkable for diligence and good conduct, receive a "student's medal," and those who have held important offices, and discharged their duty to the satisfaction of the masters, receive a high honorary medal, which they wear, unless degraded.

The whole school is classified in the order of conduct each

month, and the list presented to the house-committee. This list is suspended in the school-room, two days before its presentation, that any boy may have an opportunity to appeal to the master, if he thinks himself improperly rated. For their government, when not in school, the boys elect half yearly a prefect and sub-prefects. These latter have charge each of nine boys, whom they select in turn, forming thus a squad of ten, or decad. The master has in this, as in all other cases of selection of officers, a veto upon the choice made by the pupils. These and other officers of the school are rewarded for the performance of their duties, and punished for non-performance, the fines for neglect and rewards for the discharge of duty being in proportion to the importance of their office. A part of the morning of every Saturday is devoted to the making up of accounts, reports, and similar matters.

No pupil is allowed to leave the establishment without an examination by the house-committee into his conduct and progress, which, if satisfactory, entitles him to a certificate. A month before leaving the school, the claims of a pupil to have his name inscribed on the "table of honour," are decided by his fellows, who may petition the master on the subject; and if he countersign their petition, it is presented to the house-committee. The annual meeting of the children, both in and out of the house, has been already alluded to.

Many of these rules may appear trivial to some persons who are in the habit of treating as "boys' play" the occupations of children, but to those who see future citizens in their pupils, I am sure the details will not appear irrelevant. It should never be forgotten, that the basis of our institution is an elementary school, and that if this basis is unsound, we shall in vain work at the College, which is its superstructure; we shall in vain try to produce good citizens, intelligent tradesmen, mechanics, teachers, engineers, navigators, merchants, or scholars, unless we have rightly trained the *children*, who by a wise provision in the Will of our founder, are to be early placed under the protection of his institution.

Of those who view the matter seriously, many object to the

introduction of pecuniary rewards at all in a school. I tried, as far as my opportunities would permit, and with the advantage of a free communication with the amiable master, with his first assistant, and others, to ascertain whether any permanent bad effects had shown themselves, but I could not learn that such had been the case, or that these boys appeared more sordid or avaricious than children generally. In regard to the general effect of the regulations it is certainly good, for the boys are cheerful and healthy, gay and well disposed in the play-ground, with great docility and a reasonable degree of quickness in the class-room. Of course much of this depends upon the judicious manner in which the rules are executed, but if they were radically defective, the results must have indicated the fact. I believe that the system of family discipline, duly carried out, would produce even better results, but such a plan is incompatible with a limited expenditure, from the number and character of the agents which it requires. Upon this point, however, I have elsewhere already insisted, and if a comparison is to be drawn between the system pursued at Liverpool and the one just described, I should give this the preference.

### CHRIST'S HOSPITAL, OR BLUE-COAT SCHOOL, LONDON.

This is the oldest and most wealthy of all the institutions in Great Britain having a similar object, and it is the one which gives the most distinguished of its scholars, after leaving its walls, the best opportunities of rising to the stations which their talents warrant. We have seen that a few of the Heriot's boys were sent to the university, but, in Christ's Hospital there is a systematic selection of a number of pupils for the English universities, where success is sure to lay the foundation of future prosperity. Though this school is not characterized by the practical turn which must distinguish the Girard College, yet, from the age to which a part of its pupils are retained, and the degree to which its studies are carried, it will afford instructive matter of examination. The great scale of the institution, so much beyond any other in Great Britain, and, indeed, in the

world, rendered my visits to it very interesting, and the acquaintance formed with its intelligent masters and officers,* was a source of great personal gratification.

*History and Building.* Christ's Hospital was founded in 1552, by King Edward the Sixth, and was opened in the old monastery of Greyfriars, which had been given by Henry the Eighth to the City of London, for the use of the poor. It seems that from near the period of its foundation one object of the institution was its use as a classical or grammar school, though to what extent it served this purpose does not clearly appear. In 1577 the *Writing School*, so called, was formed to supply great defects in the English education of the pupils, and in 1673 the *Mathematical School* was established by Charles the Second, for the education of officers for the naval and merchant services, by special instruction in mathematics, navigation, and the kindred branches. In 1676 originated the *Preparatory Establishment* for young children now at Hertford; and thus were completed, within about a century from the foundation of the school, the four establishments of which it may be considered as at present composed. The number of governors of Christ's Hospital now amounts to four hundred and twenty, including, as ex-officio members, the lord mayor, aldermen, and council of the city of London. Of these governors a standing committee of forty has the general charge of the affairs, being responsible to the general board, which meets six times yearly.†

The capital is invested chiefly in landed or funded property, the latter being the most productive. The income for the year 1836, deducting moneys paid for stocks and passed to the building fund, amounted to the enormous sum of three hundred and thirty three thousand dollars, by no means all of which, however, was absorbed by the current expenses, and these are so

* I was indebted to William Vaughan, Esq., of London, for an introduction to this institution, which opened every avenue to information in respect to it.

† In 1832 there were in the Hospital at London and the Preparatory Establishment at Hertford, thirteen hundred and thirty-seven children; in 1833, thirteen hundred and thirty-five.

various in kind, that they cannot all properly be charged against the education and maintenance of the pupils. There are between thirteen and fourteen hundred children on the charity, the average maintenance of each of whom costs a little over one hundred and ten dollars, and including all expenses except the management of estates, &c., about one hundred and ninety dollars. The buildings of the institution at London have, in later years, undergone thorough repairs; new ones, in a Gothic style, resembling the older ones, have been erected, and the assemblage is now one of the most imposing to be found connected with any similar establishment in the world. They are still constantly undergoing alterations upon a regular plan, and thus a steady improvement in this respect is secured. The large dining-hall, with the offices below, the writing-school, and the mathematical school, are beautiful specimens of architecture, and admirably suited to their uses. The cloisters, which form the sides of a part of the building, and which connect others, are excellent places of play for wet weather. The kitchen, large lavatory,* and other offices deserve examination.

*General Government.* The chief executive officer is the treasurer,† who not only manages the estates, but has the control of the institution, and is, in fact, its presiding officer. He is a member of the board of governors, is chairman of all committees, and when the committee of forty are not in session, has discretionary power of action. He is allowed a deputy, called a receiver, and a clerk.

The standing committee of forty regulate all contracts, and the bills on articles thus purchased are paid by the treasurer or receiver. Other bills require the signature of three of a committee of auditors consisting of twelve members, of whom six are from the larger committee, and six from the general board.

* All these parts of this, and the Orphan Asylum at Clapton, were carefully visited in my company by our architect, T. U. Walter, Esq., which renders further details from me unnecessary.

† Now J. H. Pigeon, Esq., who gave me every facility for visiting the institution.

The officers render accounts once a month to the committee of forty, and the cash book is submitted to their examination. The salaries, including those of the masters, steward, beadles, &c., are paid quarterly, at the counting-house within the Hospital enclosure, by the treasurer. The house-servants (females,) are paid by the matron. The out-door servants and labourers, by the receiver, monthly. The steward receives monthly £100 in advance for petty expenses, for which he accounts. To transact the business of the counting-house, the following officers are required:—1st. A chief clerk, who conducts all correspondence, attends meetings of committees and of the board, (called courts,) &c. 2d. A receiver, who is the treasurer's deputy, and assists the clerk as secretary at the meetings of committees. 3d. A wardrobe-keeper and chief assistant clerk, who, under contracts made by the committee, inspects, receives, and delivers all apparel, and assists in the counting-house. 4th. Two other assistant clerks, who are selected from among the pupils of the school. 5th. Two messengers. All articles required for the establishment, except provisions, are received at this counting-house, and drawn out on orders from those who superintend their use.

Besides the officers connected with the estates, are a solicitor, and a surveyor, who is also the architect, and who has his office within the buildings. All the officers hold their appointments at the will of the governors, and the treasurer has the power of suspending any one of them, reporting the case to the committee.

Besides the servants already mentioned, are a porter for the front gate, a gate-keeper for the private entrance, who also attends to the lamps in the courts, two watchmen, a cook, who is required to keep two servants to assist her, labourers to light fires, bring water, &c. The porter is expected to attend to the fire-engine and plugs, and to be responsible for their good order. To be sure that the watchmen are on the alert at every hour of the night, the following ingenious plan is adopted. A dial-plate moved by a clock, presents a number of holes corresponding to the hours, each of which passes in turn before an

opening in the clock-case; a pin is required to be inserted into one of these holes, which can only be done at or near the proper time; and if omitted, the want of vigilance is detected.

*Admission, &c.* The presentations of candidates for admission are made in the meetings of the governors, each member of the board having a right of nomination in turn. The cases are then discussed and voted upon. There is no precise limit set by law to the income of a parent which would exclude his child, but each case is separately considered.* There is also no qualification as to previous instruction. The age of admission is between six and ten, the same fixed upon by Mr. Girard for the admission of orphans into his college. There is no obligation on the governors either to bind out the children who are to enter their apprenticeship when they leave the institution, or to maintain them in any way; there are, however, various benefactions, which have been placed at the disposal of the board for such purpose by different benevolent individuals. The boys of the mathematical school are appointed in the navy, or apprenticed in the merchant service, and the most distinguished pupils of the grammar school have various scholarships open to them at the universities.

*Intellectual Education.* Various changes have been made in the instruction at different times since the foundation of the institution, to bring it more nearly in unison with the general condition of education of the day. It is not necessary to detail these alterations, but merely to give some account of the present state of the schools.† The objects of the education here may be considered as threefold. First, to fit boys for trades or mercantile pursuits; these pupils leaving the institution at about fourteen years of age. Second, to fit boys for the naval or merchant service; these pupils having a special course in the

* I was informed that an income of fifteen hundred dollars (£300) per annum had been ruled to exclude from the school the child of a father possessing it, unless he had a large family.

† At one period in the history of the school, the pupils studied but one branch at a time, and this depending upon their age! showing the strange ideas of intellectual culture then prevailing.

mathematical school, and leaving the institution at the age of sixteen. Third, to fit a chosen few for the universities; these devote themselves to classics, mainly complete their instruction in the upper grammar school, and leave the institution at about eighteen or nineteen. The preliminary school at Hertford is the nursery of the establishment, and from it, as vacancies occur, the pupils are transferred to the London house. It is expected that previous to this transfer, the boys have acquired some knowledge of English, of arithmetic, and of the rudiments of Latin. On arriving at the London school, they join one of two great divisions which are equal in standing, and one of which attends the grammar school in the morning and the writing school in the afternoon, the other alternating with the first, and the time of attendance being changed every alternate week.

The grammar school is divided into two departments, called the upper and lower schools, each containing three classes, those of the lower school designated as the junior, middle, and upper classes, and of the upper school as great Erasmus, deputy Grecians, and Grecians. The head master* has the special charge of the upper school, giving instruction personally to its two higher classes, and superintends the lower school, which he examines every six months. All these classes alternate in their attendance at the grammar and writing schools, except the deputy Grecians and Grecians, who attend the mathematical school for three hours on two afternoons of the week. The lower school is directly under the charge of two masters, who use the same books and pursue the same general course, and who are in part assisted by monitors from the upper school. The instruction consists of spelling, English reading, grammar, geography, Latin and Greek rudiments, and an introduction to the church catechism. The classical lessons are Latin or Greek grammar, construing and parsing, and exercises. In the writing school these same boys are taught writing, arithmetic, book-keeping, the drawing of invoices, and all matters intended to fit them specially for the counting-house, and

* At present the Rev. Mr. Rice, to whose politeness I was much indebted.

writing from dictation is added to improve their orthography. There are two masters and two ushers for this school.

Twenty of these boys may, also, attend a lesson in drawing once a week, but as the hour fixed for the purpose is at present during the time of "half holiday," but little use is made of the privilege.

The pupils of the lower grammar school are carried thus as far as the Heriot's and George Watson's boys of Edinburgh, and the greater number of them have arrived at the age when they leave the institution to be apprenticed to trades and similar occupations. The courses of instruction here are more concentrated, and in those just named of Edinburgh, include more useful branches. Both are liable to the objection that much time is spent upon matters which are not pursued far enough to secure the mental culture which would otherwise result from them, and yet which have no bearing upon the future occupations of the pupils. In reply to this objection, it may be said, that it is impossible to discriminate between boys at this early age, and to discern who have the aptitude for a thorough training by languages, or who will make the future Grecians of the school. That it is difficult may be freely admitted, but that it is impossible I do not believe. With the resources of an institution like Christ's Hospital, the number of teachers may be so far multiplied as to permit an accurate study and appreciation of the actual talents of a youth, and to watch the progress of their development; on the average, the appreciation would be just, and remedies for cases of error or of late development are easily provided. But, if we suppose the discrimination impossible, and that all must receive, up to thirteen or fourteen years of age, an education to prepare them for the business of life, in a lower occupation, or one introductory to higher studies—with which individual will the case be the harder? With him who, having received the lower kind of instruction, has the talent to push himself into the higher studies, and who, besides, remains at the institution for several years for this purpose, or with him who is at once to enter an apprenticeship to a trade without having acquired the necessary in-

formation introductory to his career? Obviously the latter individual will find his position the more difficult one. But we are not left to such a comparison in this particular instance, for there are less than seventy cases in which the studies may be claimed to prepare for the pursuits of the youth, to more than three hundred of the opposite character. Where the numbers stand thus, I do not conceive that there should be any hesitation as to the course to be pursued.

My first position, that it is practicable so to arrange an institution that superior talent shall receive full opportunities for its cultivation, without sacrificing inferior talent by inappropriate instruction, is fully borne out by the experience of some of the orphan schools of Germany and Holland, which I shall hereafter describe. My excuse for so often recurring to this subject, must be found in the fact, that this question must be decided for the Girard College by its Trustees, and I am, therefore, most anxious in regard to it. I return to the course of the description of Christ's Hospital, thus interrupted, and resume the consideration of the arrangements of the grammar school, with the lower class of the upper school.

The boys of the great Erasmus class are pushed forward in the classical studies, being those from among whom the deputy Grecians are selected. In Latin they read parts of Sallust, Ovid's Epistles, and Virgil, and in Greek of the Diatessaron and of Xenophon's Anabasis. During the last half year of the course, the pupils who have no expectation of promotion drop off, and are apprenticed by their parents or friends to surgeons, solicitors, &c. There are from twenty to thirty-five pupils usually in this class, and their average age is about fifteen years.

The deputy Grecians are, during nearly half the time spent in the grammar school, under the charge of the head master, and study the following authors and books:—In Latin, Virgil's Æneid, Ovid's Epistles, Horace, selected orations of Cicero, Terence, Valpy's Exercises, Elegantia Lat., part second, Kenrick's Abridgment of Zumpt's Latin Grammar, Edward's Latin Lyrics and Elegiacs, Latin and English versification. Portions of Horace and Ovid are learned by heart, and themes are writ-

ten. In Greek, Scriptores Græci, Homer, Demosthenes, Edwards' Abridgment of Matthiæ's Greek Grammar, Huntingford's Exercises. Portions of Homer are committed to memory. In Hebrew, the grammar. In English, Butler's Geography, Historical Catechism, English Poetry. An English theme, and practice in versification, alternate with the corresponding exercises in Latin. There are ordinarily from eighteen to twenty in this class, some of whom are promoted to the next higher, and others are withdrawn by their friends to begin the study of a profession, or, having completed their preparatory studies by the same assistance, enter the universities by successful competition for some open scholarship, or at the expense of their friends.

The Grecians pursue the studies necessary for admission to the universities, and as one of the scholarships belonging to the hospital, or to which the Christ's Hospital boys have the preference, at either university, becomes vacant, the eldest member of the class is promoted, his place being filled from the most promising of the deputy Grecians. Two vacancies at Cambridge every year, and one at Oxford every fourth year, are thus supplied. There are usually seven or eight members in the class of Grecians, which, by the arrangements just stated, must contain pupils in various states of progress, and usually of different ages, some of them having reached eighteen and even twenty years of age. The class is principally under the immediate charge of the head master, and their course of classical studies is very extensive. As already stated, they receive instruction in mathematics for three hours, on two afternoons of every week. Their studies in the grammar school are, in Latin, Livy, Horace, and Juvenal, alternately, Cicero, Tusc. Disput., and de Nat. Deorum, Pitman's Excerp. ex Var. Rom. Poet., Kenrick's Exercises on Zumpt's Latin Grammar, Edward's Exercises on Latin Lyrics, and translations into Latin Elegiacs and Lyrics, frequent exercise in Latin and English versification and declamation, learning by heart portions of Horace, Juvenal, and Virgil's Georgics. In Greek, Dalzel's Analecta Majora, vols. 1 and 2, Herodotus, Thucydides, Barker's Selected Orations of Demosthenes, Homer's Iliad, Aristophanes, Kenrick's Greek Exercises, part se-

cond, Buttmann's Grammar, Greek prosody and versification, Beatson's Exercises in Greek Iambics, the translation of Greek into Latin and vice versa, the Greek Testament. In Hebrew, the grammar and part of the Psalter.

The sons of officers of the navy, and others who have been elected to the foundation, are placed in the mathematical school after they have attained the necessary knowledge of English and arithmetic, and have been until about fifteen years of age in the grammar and writing schools. Here the studies are entirely mathematical, embracing such applications as are essential to navigation. Formerly, instruments were in possession of the institution for exercise in practical astronomy, and even an observatory was attached to the buildings; but I believe nothing of this kind now exists. These boys attend a drawing master two afternoons in the week, and their places are occupied by the Grecians and deputy Grecians.

Twice a year the different scholastic departments are examined, viz. in May and November. The examination is not conducted by the masters, but by gentlemen unconnected with the institution, appointed for that purpose, and who report to the governors. Prizes are given in the writing school, to the boys most proficient in writing, arithmetic, and drawing, and specimens of the writing of all the boys are posted for inspection. This plan of examining by persons not connected with a school, prevails in many public establishments, both in England and on the continent of Europe. It is supposed to insure at once impartial dealing towards the pupils, with whom the examiner in general has no acquaintance, and a fair report of the character of the instruction, and was the means, at one period, of rectifying very great abuses in the mathematical school of Christ's Hospital. Examinations are too apt to degenerate into a show, if public, without some such precaution, especially if viva voce, and yet the method above referred to is liable to serious objections. Besides these examinations, every boy who has attained the age of thirteen is examined in spelling and reading English.

The masters of this establishment have in general a right to

receive each six private pupils, to be educated with the boys of the house; this is a privilege conferred with a view to increase their stipends, which are not considered adequate.

The vacations are eighteen days at Easter, four weeks in August, and fifteen days at Christmas, Sundays inclusive. Beside this, the afternoons of Saturdays are holidays, and Wednesday is alternately a whole and half-holiday. Those boys whose friends wish them to spend the August holidays out of London with them, may be permitted to do so; an indulgence formerly granted but once in three years, but now annually. On such occasions they are required not to appear in the city. Those who remain in the hospital during August, have permission to visit their friends in London three days in every week, unless stopped for punishment's sake. On certain other holidays, all the pupils are allowed to leave the enclosure, and on the half-holidays those boys who have deserved reward are permitted to leave the institution, returning by an appointed hour in the evening. On these occasions they must wear the uniform of the school, a precaution adopted, partly as insuring the good conduct of the pupil, and partly his safety, from the favourable regard of the public towards the institution. During my stay in London I frequently met these boys in the streets, and never saw one misbehaving, and certainly believe that their peculiar costume insures them protection, attracting much attention from its antique appearance even in that crowded metropolis. To prevent absence without leave, the gates are observed by certain elder boys, who receive tickets of leave to go beyond the bounds as a reward for the discharge of their weekly office. A bell is also rung by the steward at irregular times, to call all together, and detect absentees.

The boys receive lessons in singing, but only to prepare them to take part in church music.

There are two libraries which may be consulted under proper regulations; one, of English and classical works, in the upper grammar school, is intended for the boys of that school, and is placed in the Grecians' parlour. The second is of

entertaining books, and is under the same control. The books are furnished by the governors on the requisition of the head master.

*Moral and Religious Instruction and Discipline.* We have seen that the instruction in church catechism by the masters is one part of the school duties; the reading of the Bible, singing of psalms, graces, &c., and attendance at Sunday worship are other means of religious instruction, and are very regularly attended to. On Sunday a Bible lesson is learned, and the boys are questioned upon it by the monitors, and the head master reads a lecture after supper. Every night prayers are read in the hall by one of the Grecians, and a psalm is sung, after which a monitor reads a short prayer in the wards before the boys retire to bed.

The discipline in the school-room varies, of course, with the instructor, but is in all reasonably good. Corporal punishment is sparingly resorted to, and the opinion of the head master, who has had much experience in the concerns of the institution, was very unfavourable to its frequent use, as tending to harden the character of the boys, and to render them less tractable and well disposed towards their masters and others. Out of doors the pupils are superintended by the steward, who has under his charge four servants, called beadles, who attend in the different courts, and report infraction of regulations. The older records show that the boys were in former times in the habit of very rough conduct in their intercourse with each other. This is much modified at present, but struck me as still admitting of improvement. On this point I may be fastidious, but I believe that the Christian law of love is not to be lost sight of in school, if we would have it practised in society, and that independence of character is by no means inconsistent with kindness in intercourse. The system of fagging which prevails at one of the principal English grammar schools which I visited, and exists in many others, is not allowed here, and the younger boys are not subjected thus to the tyranny of the elder ones. Those boys who are selected for trusts in the dor-

mitories and in school, are chosen for good character, their selection being entirely at the master's option, and when they offend they may be displaced by the same authority. In the school the eye of the teacher is upon the monitors, and in the dormitories the authority of the nurse is at hand to control them, so that abuse of their delegated power is difficult. At meals, the boys are superintended by the steward and matron, and certain Grecians.

The monitors are selected by the steward, with the advice of the teachers, from among the boys who are highest in the classes of the grammar and writing schools. Besides this class, whose duties in and out of school hours have been stated, there is another class of boys, called "markers," selected by the head master of the grammar school, and solely in reference to their rank in that school, to hear the lessons of catechism and Sunday reading. These wear a badge, which they are allowed to preserve on leaving the school. The two situations are not incompatible.

The nurse and ward monitors are responsible for proper conduct during washing in the morning and evening. Each has a ward in charge, containing from fifty to sixty boys, and has control over the servants of the ward. There are two special nurses for the infirmary. The apartments of the nurse* are at the end of the ward, and look into it. She is responsible for the general order of the ward, has charge of the mending, of distributing clean clothes, &c., which she does through the ward monitor. When any of the pupils are unwell, she takes them to the infirmary, or reports them to the physician. She reports the number who are well each day to the steward for meals. This superintendence by females struck me as strange, since some of the boys are quite well grown, and the Grecians, who occupy a part of the ward, are young men, frequently nearly nineteen years of age. The singularity of the arrangement, however, disappears, in great part, when it is considered that the same

* The rules prescribe that the nurses shall be widows, and above forty years of age.

nurse always has charge of a boy, from his early entrance into the institution until he leaves it, and hence becomes as a mother to him; and, in fact, some have actually their own children among the pupils of the ward. Admitting that care is required in the selection of the nurses, I must say that neither from observation nor inquiry could I learn that in this institution the arrangement was productive of difficulties. This was not, however, the case in another school which I visited, where the selection had been less judicious, and where the discipline was rather relaxed. The nurses are assisted in their wards by the ward monitors, and superintended by the matron and steward. They are present at the prayers said on rising and going to bed. The servants of the wards are named, paid, and may be discharged by them.

Corporal punishment is discouraged out of school as well as in it. A few boys may be indulged by sitting up after the others, as a reward for good conduct, but none can be up later than a quarter before ten o'clock. The Grecians have the privilege of sitting up until ten o'clock.

It might naturally be supposed that, in so large an institution as this, having within its enclosure between seven and eight hundred youths, one would find an exact code of rules and regulations for discipline. But such is not the case, nor do they seem to feel the want of it. The discretionary power vested in the different officers works without rules. General verbal instructions are given to the inferior officers by their superiors, but the *usages* of the school have passed into a common law, well understood by both the pupils and officers.

A well regulated gradation of privileges, constituting a gradual assumption of the entire responsibility of his conduct by the pupil is, in my opinion, essential to the success of an institution which aims at preparing youth for the business of life. The want of it is the cause, no doubt, why so many fall away from rectitude on issuing from these recluse establishments, and finding themselves in entirely novel circumstances. Partial attempts have been made, in some schools, to remedy this difficulty; for example, at the Orphan-house of Halle, the pupil has an

allowance in money for the purchase of his breakfast, that he may learn to dispose of money on his own account. At Hamburgh, the pupils are sent of errands into the city, to become familiar with its localities and the manners of the people. In one of the grammar schools of Holland, a similar idea is applied to a gradation of instruction between the hourly responsibility of the pupil of an ordinary school, and the entire freedom of the member of a university; and a plan in part resembling this has been adopted at Geneva, in their more recent arrangements for higher education. In this institution the monitors and markers have privileges, but the Grecians are those who are pre-eminently favoured. They receive each fifty dollars a year to dispose of, and each one has a study, and a bed separated by a curtain from others in the dormitories. They have a parlour in common, a superior table, and a dress differing somewhat from that of the other pupils; retire at different hours from the others, are allowed to leave the premises during the day, except in school hours; assist in keeping order within doors, being superior to the monitors, and aid the masters in school. These arrangements, as far as they extend, are highly judicious, and productive of good results.

*Physical Education.* The health of these boys appears, in general, remarkably good, and their physical development even above the average. They are not overburthened with indoor work, and are kept as much as possible in the open air. Their play-ground, however, is rather limited in extent, and their sports are, in consequence, not of the most athletic kind. The frequent opportunities of leaving the enclosure remedy this defect in part, and their cloisters give them great advantages over boys who have no covered play-ground, especially in so humid a climate as that of England. While at play, they are superintended by beadles, of whom there are four, one having charge of each court. The beadles also superintend the boys at rising and washing, and one of them has charge of the small gate, which is commonly open, and prevents any pupil from egress without a pass. This only applies to the younger pupils, the Grecians, as already stated, having free egress except dur-

ing school hours and after night. The steward, besides his duties already generally mentioned, is responsible for the conduct of the boys while at play and at meals; no boy can be absent from meals without his authority, and he may punish by confinement to bounds or to the room any infringements of good order. He regulates not only the receipts, but the delivery of provisions, in which offices he is assisted by boys detailed for the purpose. The pupils, under his direction, receive the provisions, and serve and clear the tables. Some of these offices are rewards, and carry with them small gratifications in the way of leaves to be absent from bounds, &c., others are punishments for faults committed. The diet is plain, but wholesome; the mode of serving the table, the utensils, &c., are, however, antique in the extreme. The matron sends the portions for their tables to the nurses, who distribute to the boys and one of the Grecians, or deputy Grecians, the nurse superintending, carves, while the boys who are appointed for the purpose act as waiters. A portion of Scripture and a prayer are read, and grace said or sung, before beginning the meal; thanks are returned at the close, and the dining-hall is vacated at signals from the steward, who presides. Besides the regular meals three times a day, bread is distributed once, one of the boys carrying a basket, and another serving. Of the various offices filled by the boys, I found it impossible to discriminate those considered marks of dishonour from the others, but usage has rendered the artificial distinctions perfectly familiar to the pupils. What remains of the provisions after meals is distributed to the poor.

*Clothing.* The supply of clothing consists of two suits every year, and is ample to keep the boys looking neat. Their costume is surprisingly antique, being, in fact, the same which was adopted at or near the period of the foundation, and from which the popular name of the Blue-coat School is derived. As it is entirely inapplicable to the use of a modern school, I may pass over the subject with one remark, however, bearing upon the health. The cap is so small as to afford a very inconsiderable protection to the head, and being inconvenient is, in fact, not used at all, so that both out and in doors, these boys appear

with bare heads. That this has an effect in preventing complaints of the head, such as ring-worms and scald-heads, I make no doubt from observation, and in some climates, or when weather permits, the practice is, I believe, beneficial. It prevails even more extensively on the continent than in England, and I was quite surprised to see the pupils of Mr. Fellenberg's school, at Hofwyl, in Switzerland, going bare headed, without inconvenience, out of doors, when I required a fire within.

The mending is done on the premises, the clothes being repaired by the nurses, and the shoes by a workman constantly employed for the purpose. The regulation requiring the pupils to wear the uniform of the school when absent on leave from its bounds, acts as a great stimulus to neatness and the care of clothing.

*Cleanliness.* This subject has attracted much attention here, and great improvements have been made in the arrangements for promoting cleanliness. Formerly, the boys of one dormitory washed in common in a trough, and wiped upon one towel. Thus any disease of the head or eyes was propagated rapidly and certainly, and the want of cleanliness tended to encourage the production of such diseases. Besides a large lavatory, capable of accommodating one hundred boys, and furnished with a supply of hot and cold water, each dormitory has now an adjacent smaller lavatory, well supplied with water; the boys enter by squads, and each has a stream of running water in which to wash, a towel, soap, tooth-brush, &c. Besides washing twice a day, their feet are washed once a week in winter, and oftener in summer. These precautions should be multiplied during summer with us, to suit the requirements of our climate.

The boys sleep on iron bedsteads, one in each bed, the bedding being supplied at the discretion of the matron. They make their own beds, clean their shoes, and do other offices of police and domestic economy, as already stated. The sweeping of the dormitories is a punishment inflicted for offences in the ward, for laziness, or slovenliness.

*Sickness.* The sick are taken care of by the nurses, at the infirmary, a building apart from the schools and dormitories, and cases which may be infectious or contagious are treated in separate wards. An apothecary, who prescribes in common cases, resides upon the premises, and the consulting physician attends at the hospital once a week regularly, and whenever sent for. There is a small dispensary attached to the infirmary. The diet of the boys in the infirmary is under the control of the physicians, and, of course, differs in general from that of the pupils in health. It is prepared by one of the infirmary nurses, who has a small fund advanced, for the disbursements of which she is responsible: the nurse has an assistant, when necessary. The friends of the sick boys, who visit them, are not allowed to bring in any article of food or medicine, unless by permission of the apothecary.

## CHAPTER II.

### ORPHAN-HOUSES OF GERMANY.

Having completed an account of the most interesting of the eleemosynary institutions of Great Britain which I visited, I proceed next, according to the plan already sketched, to those of Germany. I have found it impossible, without describing institutions of inferior note, to give the South of Germany its proportion of notice, and, after much reflection, have concluded to confine myself, in reference to it, to an account of the Orphan-house of Prague. I might, indeed, have added that of Stuttgard, in Wurtemberg; but having been there during a time of vacation, I have collected only printed results in relation to it, and nothing from personal observation. The institution of Frankfort on Maine, belongs, geographically, to those of the middle of Germany, though I am aware that the city is considered by its people to lean in feelings and manners to the south.

This chapter will include a description of the Orphan-house of Hamburgh, a notice of that of Altona, a description of the Franke Foundations at Halle, of the Military Orphan-house at Potsdam, a statement of the courses of instruction at the Military Orphan-house at Annaburg, in Prussia, a notice of the Civil Orphan-houses at and near Potsdam, a description of the Orphan-house of Frankfort on Maine, and of the School for Soldiers' Children at Struppen, near Dresden, and of the Orphan-house of St. John, at Prague.

### ORPHAN-HOUSE AT HAMBURGH.

The Orphan-house at Hamburgh was considered, not many years since, as one of the most remarkable in Germany. It had attached to it, or rather growing out of it, a seminary for teachers, the benefits of which were felt not only within, but

without the establishment, and the arrangements for education were considered to be well matured and administered.

I propose first to give a brief account of what the institution was, and then to notice its present condition; both the past and present state of the establishment appearing to me fraught with instruction. In general, if an institution fails, it is more from the inefficiency of its teachers than from defects in its arrangements. An efficient teacher may supply many deficiencies in a plan, but there are some cases, of which this is one, in which a defective organization places the remedy beyond the teacher's reach.

*History, Buildings, &c.* The establishment was founded by the exertions of two refugee noblemen from Holland, De Greve and Van Petkum, in 1597. It was commenced in an old church granted to the trustees, among whom were its founders, and the present buildings were not erected until 1782–5. The pecuniary resources, the number and kind of pupils, and the general arrangements, have varied frequently. The revenues, which depended in part on payments to be made from church funds, were often inadequate to support the number of pupils, which at one time rose as high as eight hundred. Means were provided for introducing foundlings into the house without exposure, which, after trial, were abandoned, though the house is still a foundling hospital.* Among the arrangements for teaching deserving of notice, the rudiments of a mutual instruction system were introduced early in the seventeenth century, and a method of teaching reading and writing together, which has been since, in an improved form, introduced with good effect, was adopted about the same time. Both resulted from a desire for undue economy; the first, to economise teachers, the second books, and neither appear, in the form in which they were tried, to have had any success. The spirit which prompted these experiments was not of the kind to render them effective,

* To the credit of the morals of Hamburgh I ought to mention that, at present, not more than one foundling a year, on the average, is received at this house. The means of introducing them referred to in the text, was by a turning-box, similar to that still used at the Foundling Hospital of Paris.

if the ideas had been ever so good. The mortality in this house during the seventeenth and eighteenth centuries was frequently as high as from sixteen to eighteen per cent. It has been in this century reduced as low as three.

The present buildings are in general commodious, wanting, however, the requisite accommodations for the families of the masters, who, when married, must live off the premises, an evil, the effects of which will be noticed hereafter. There are two divisions of the house, one for boys, the other for girls, and a chapel common to both sexes. On the boys' side there are three class-rooms, a large room for singing and writing lessons, a room for tailor's work, in which the boys make and mend their own clothes, an extensive lavatory, and a bath-house; a dining-hall below stairs, and dormitories above. The sick wards are in the upper stories, in a building joining the two wings. The trustees have a meeting-room in the house, and the economist (steward), rooms for his family.*

The institution is governed by thirteen trustees, consisting of the first burgomaster of the city as president, of two senators, two aldermen, and eight other members, usually merchants, who are elected by the city councils, and one of whom goes out every year.

*Admission, &c.* Fatherless children below eight years of age may be admitted at any time. If healthy, the children are boarded out until they reach eight years, if not healthy, they are placed in the sick wards. Every three months, children of eight years old or over, who are living out, become members of the family within the house. At fourteen the child is apprenticed and leaves the institution. Formerly, as already stated, those who were fit for the occupation, were instructed as teachers in the school itself. Not less than five per cent. of the pupils were found thus qualified, and willing to devote themselves to the laborious occupation of schoolmasters. The teacher's class contained usually from eight to

* The small size of the kitchen required among these people to supply four hundred children with food, would appear incredible to those used to the arrangements of England and the United States.

twelve individuals. The plan of education which follows existed at that time.

*Intellectual and Moral Education.* This was declared to be of a kind adapted to fit a child for some "*useful calling*," and excluding the higher branches of education.

The pupils were divided into five classes. First, the elementary class, subdivided according to its numbers into four or five sections, and instructed by pupils of the house who were preparing as teachers. On entering this class the children were usually between eight and nine years of age, and they remained in it two years, passing, every six months, into a higher division. The studies in this class were—first, exercises of speech and thought, orally, the teachers following Von Türk's Perceptions by the Senses, or Pöhlman's Book of Nature.* Second, reading by the phonic method, which will be described in a subsequent part of this Report. Third, arithmetic, especially mental arithmetic, according to Pestalozzi's method. The four ground rules were taught in the higher division.

Fourth, elementary geometry, notions of form, measure, and construction. Fifth, writing, according to the method used by Pestalozzi.

Neither of the books used for the exercises of induction have, I believe, been translated into English, nor have equivalent ones been published in our language. The admirable Lessons on Objects, by Miss Mayo, are designed for children more advanced in attainments and culture than these, though not in age. The infant-school lessons on objects practised in many of the English schools, would come nearer to the requirements of this class, but are still of a different kind from those adopted by Von Türk and Pöhlman. Indeed, as the locality of a school, the school-room itself, and the implements for teaching afford the most instructive objects for beginning with these lessons, they must vary in a great degree with the school itself, and none other than a general guide can be given to a teacher, which, however, would

* I insert the names of the text-books, because they give an idea in their titles of the nature of the exercises. The names of the others are suppressed. They are to be found in the college library.

be amply sufficient for one fully imbued with the spirit of the method. It contains within itself the elements of all instruction, preparing a basis for elementary arithmetic, natural philosophy, natural history, grammar, geography, geometry, and morals. Its importance can only be fully realized by seeing it well practised.

Mental arithmetic having been long used in our schools and in those of England, we have many excellent works on the subject. It serves admirably to strengthen the memory for abstractions, to give the concentration of mind required to draw conclusions rapidly, when surrounded by persons and things tending to interfere with close thought. As it comes to its results rather by ingenious processes than by rule, it gives great readiness in inventing methods in cases having reference to quantity.

For the elementary notions of form, our books are again much behind the German school-books, though lately Mr. Reiner has supplied in part this deficiency.* As a basis for geometry, for the useful exercises of geometrical analysis, and as giving to the young mind clear ideas of the connexion between arithmetic and geometry, I have seen no exercises equal to them.

Pestalozzi's writing method is too well known to need remark; in general it applies better to the formation of the German written letters than to ours.

In 1826–7, from one hundred and seventy-four to one hundred and thirty-eight pupils were instructed in this class by the pupils who were serving their novitiate as teachers.

After passing through the elementary class, the pupils entered one of the three *parallel classes*, so called because they pursued the same studies and consisted of individuals of nearly the same age. They remained in one of these classes generally two years, or until nearly thirteen years of age. Each parallel class was composed of two divisions, and had one teacher. The subjects of instruction were as follows:—First, Religious instruction, Bible history, and the Lutheran Catechism, Trefurt's Bible stories. Second, German grammar. Third, arithmetic,

* Lessons on Number; The Master's Manual, by C. Reiner, London, 1835; Lessons on Form, by Charles Reiner, London, 1837.

and geometry, according to Von Türk's method. Fourth, useful knowledge, the teacher using Hoffman's Instructor in Natural Objects, and Zechariah's Geography. Fifth, rhetorical reading.

The subjects of study and works used, probably require some comment. The religious instruction was given in the lower classes orally, by the relation of some of the principal Bible stories, with an exposition of their moral; in the higher classes by the selection of the historical portion from the Old and New Testament, to be read by the pupils, and then by drawing their attention, in a familiar lecture, to the moral of the history, and by unfolding also its application. Frequent explanations of the peculiar manners and customs of the nations treated of in the sacred volume, and of the natural history of the East, throw a great charm about this kind of instruction. The feelings and dispositions of the children are ascertained by their answers to the questions put by the teachers, and thus the lesson is made a powerful means of moral training.

The Manual of Magnitude and Form by Von Türk, is another one of his useful productions, which has not, I believe, been translated; it is the result of his practice in teaching, and contains much that is good in regard to the connexion of the two sciences of number and extension.

The term "useful knowledge," by its limitation to certain subjects, being calculated to throw other important ones into the shade, is certainly objectionable. By it, however, is understood a combination of the study of the natural productions of the earth with its natural and artificial divisions, and the history of its inhabitants, or a combination of geography, history, and natural history, admirably calculated to interest the pupil deeply in the elements of these branches.

The parallel classes were united for instruction in arithmetic and writing, the lower divisions of the former having their lessons in the morning, the higher in the afternoon. All the pupils having a taste for drawing attended the drawing class, and the elder boys received lessons in vocal music.

There were half yearly examinations in presence of the trustees on these subjects.

This instruction completed the intellectual course of the pupils in general, who were bound to trades on leaving the institution. Those who displayed the necessary intelligence and other qualities which promised that they would make instructors, after passing through the studies of this class, entered the *Select Class*, which was under the direction of the head teacher, the catechist of the house, and pursued the following course:

First. Religious instruction, Bible explanations, and the larger Lutheran Catechism. Second. Mathematics. Third. German. Exercises of style. Fourth. Physics, by familiar lectures. Fifth. Technology and natural history, by familiar lectures and the examination of specimens. Sixth. Geography. Seventh. History, particularly of Germany.

To render the instruction in "useful knowledge," physics, and technology efficient, a small collection of models, apparatus, and products of nature, art, and manufactures; a solar microscope, planetarium, &c., were provided; this collection still remains, but is by no means extended enough to meet the teacher's wishes. Nothing can contribute so much to the due effect of such studies as collections, the specimens of which the pupil can handle himself. From them he can learn by his own observation, and may be led to further observation by his own reflection and awakened curiosity. Such a collection as this must be expensive, and hence it is seldom seen. In the La Martinière school of Lyons, such collections and methods form the characteristic features of the establishment, of which I shall speak more particularly hereafter. We are most favourably situated for carrying out this principle, and, if it be once practically demonstrated, even partially, the board will, I am sure, encounter the expense of its complete development, in view of the importance of the results.

The subjects of instruction heretofore mentioned are still required to be taught, but the plan of classification is entirely changed. The boys are now divided into three classes, one of which contains children of the ages of fourteen, eleven, and eight years; another of thirteen, ten, and seven; a third of

twelve, nine, and six; the same individuals remaining with the same teacher throughout their course. The least reflection will render it obvious that the instruction of three divisions of a class in such very different stages of progress, by one teacher, is impossible. If the instruction is addressed to the highest division, it is too high for the lowest, and if to the lowest, it does not employ the highest. The active mind of the catechist, whose recitations I attended, had adopted various devices to obviate this difficulty, but in vain. Even in the religious instruction, which may be considered as more appropriately addressed than any other branch, to various intelligences, it was obvious that a part of the class answered too readily, and the instruction was lost to another part, who did not even understand the answers of their comrades. In the lectures on physics and on technology, the case was, of course, much worse. Indeed, I do not believe the difficulties inherent in such a plan remediable. It thus happens that an arrangement which, to persons not conversant practically with instruction, may seem to realize some leading ideas of equality or emulation among teachers, or the like, may bring destruction upon an entire system.

In the school for teachers attached to the Orphan-house, as has been stated, there were always from eight to twelve pupils, who remained four years preparing for their duties. The first two years were devoted to theoretical studies; the second embraced, also, the practice of teaching. In the former years they extended their knowledge of the Bible, of the German and French languages, of mathematics and physics, of drawing and gymnastics, and were taught the theory of music, practising on the piano. The last years they studied anthropology, the art of teaching, the history of the science of teaching, and of its methods. During the latter period they were engaged in teaching under the eye of the catechist, or of the other masters. They were required to pass a satisfactory examination at entering the class, in the middle of their course, and also at its close. This experiment is, in all respects, an encouraging one. The number of pupils having capacity and willingness to devote themselves to the occupation of teaching was nearly five per cent.

of the whole school. While receiving their special education, they were conferring a benefit on the institution by acting as teachers, and, subsequently, diffused the excellent methods in which they had been trained through their own and neighbouring communities.

I pass now to the *moral education*, which, except in the withdrawing of the influence of the select class and other details, remains nearly as heretofore. The moral education is promoted, first, by the attendance in the chapel, by prayers, morning and evening, and by religious instruction in the school. Second, by the superintendence of the teachers, in turns, during the hours of play. At present, the married teachers not being in the house, this superintendence is confided to the porters, which thus changes its character. I have had many opportunities of observation in reference to this point, and feel that a proper method of providing for superintendence out of school hours, is difficult to devise. If the teacher is thus employed, he is worn out by the additional labour; and if the pupils are confided to an inferior person, he has neither the influence nor the qualities of observation of a teacher, and thus a very important part of education is lost, namely, that of the playground. The ample endowment of the Girard College requires that the interests of our pupils should always prevail over pecuniary considerations, and in this view we should prefer increasing the corps of teachers beyond what is absolutely necessary for the duties of instruction, that one or more of them in the several departments may be on duty as superintendents, especially in the lower schools. Well trained pupils of the elder classes will make their best assistants.

The superintendence in the dormitories and in the lavatory of this institution rests always with the porter, who is assisted by the chiefs of divisions, selected for this purpose from among the boys.

Third. Moral training is effected by varied occupation of the hours not devoted to school, particularly by handicrafts and exercise. At present, the only mechanical employment is one which is ill suited to the pupils, because entirely sedentary, that

of tailoring. It is true that general manual dexterity is acquired by this trade, and that it may, in some circumstances, be of utility in after life; but to keep the pupils at work merely on account of the saving to be effected in making their clothes, is carrying it to an extent which interferes with their proper physical education. Fourth. Moral education is promoted by rewards and punishments, the former consisting in presents of books and money, in permission to walk at hours not allowed to others, in doing the errands of the house in town: the latter in private admonitions, exclusion from the play-ground and from the walking-parties, confinement, reports to the trustees, and, if necessary, flogging. In order to prevent the improper use of money given to the children, the larger sums are deposited with the steward, and they receive parts of these deposits in coin of the house. This money the porter is allowed to expend for them for its full value, and at the discretion of the pupils. As a reward for diligence and good conduct, the children are allowed to visit their relations four times a year, and their relations may visit them once a month. During the general holidays, the principal ones being before Easter, leaves of absence may be granted to pupils whose relations wish to receive them.

*Physical Education.* The diet is plain and would be considered with us scanty; the breakfast is of bread and milk, the dinner of soup and vegetables, with boiled meat, and rarely roasted meat, fruit being occasionally given in addition in the summer; in the afternoon, rye bread and water; in the evening, wheat bread and milk.

The pupils wash their faces and hands three times a day in cold water. The lavatory is at present a separate building, in the yard of the orphan-house. Each boy has his basin of porcelain placed in a trough, and a whole series of basins may be filled and emptied at once, so that the monitor in charge of the division is enabled to regulate the time of washing. In summer they bathe at least once a week.

The clothing is simple but sufficient, consisting of a roundabout, vest, and pantaloons of blue cloth for the in-door winter

dress. Besides walking occasionally, the pupils formerly had regular lessons in gymnastics; the exercises are still kept up, but are voluntary. Military exercises are sometimes practised. In winter, the yard, which may be in part covered with water for the purpose, affords a place for skating. Formerly the pupils were taught turner's work, and the making of pasteboard boxes, &c., but these employments have been discontinued. The tailor's work can hardly be considered as promoting the physical education.

The provision for the sick has already been alluded to. A physician and surgeon visit the house daily, and the sick are under the charge of a nurse and assistant.

The order of the day is as follows:

The pupils rise at half past five in summer, and six in winter, wash and dress, at seven o'clock breakfast, from eight to half past eleven are in school, at twelve dine, play from one to two, are in school from two to four, receive a luncheon of bread, and are permitted to exercise from four to half past four, are in school from half past four to six, are occupied with military exercises and walking, or walking and play, from six to eight, at eight sup and have prayers, and retire at nine o'clock. Thus seven hours are occupied in school and study, five are allotted to both exercise and recreation, three hours to three hours and a-half to domestic matters, and eight and a-half to nine hours to sleep.

*Domestic Economy.* The five hundred and thirty-seven pupils of this institution cost, in 1836, one hundred and five thousand and eighty marcs banco, or about thirty thousand dollars; the cost of each was therefore about fifty-six dollars. Of these five hundred and thirty-seven pupils, the four hundred which are in the house require for attendance, &c., three nurses, two cooks, three female servants, and three male servants, of whom one is the porter; the female pupils, however, do much of the work of the entire house.

## ORPHAN-HOUSE AT ALTONA.

While at Hamburgh, I visited the Orphan-house and schools attached to it, in Altona in Denmark. The number of orphans

here educated is sixty-two. The system of instruction is that adopted generally in the public schools of Denmark, and is a modified Lancastrian method, the lower classes being taught by monitors under the direction of a teacher, and the upper classes being taught by the teacher himself. It does not appear to me necessary to enter into the details of this method, but rather briefly to state my conclusions. The instruction of the elementary classes, it is assumed, may be left in a degree to monitors, the lessons being revised by the teachers. The monitors, however, did not succeed as far as I could discern in communicating true instruction, and in their hands the method of Pestalozzi degenerated into a mechanical and lifeless routine.

Upon such a basis I believe that no teacher can possibly succeed in raising a proper intellectual superstructure. I did not pass sufficient time here to enable me to give a proper practical judgment of all the results of this system, yet I may be allowed to support the opinion just advanced by the negative evidence, that, as far as I saw the upper classes, there was nothing which contradicted it.

While visiting the lower classes of one of the public schools near the orphan-house, with an intelligent teacher, the inefficient instruction in arithmetic by the monitors particularly struck me, and the fact that the spiritless repetition of a string of sentences from the Pestalozzian course of addition, and a merely mechanical use of the illustrations by blocks by the monitors, failed entirely to convey a proper idea of the subject to the class, who in general appeared listless and inattentive. The teacher took up the instruction, and immediately the whole scene appeared changed, and it was soon evident that he had interested and attentive hearers, who, under similar instruction, would have proved learners.

### FRANKE FOUNDATIONS AT HALLE.

The Orphan-house of Halle has clustered around it the various foundations known by the name of its founder, Professor

Franke,* of the University of Halle. This institution has probably been more influential than any other in promoting the cause of the fatherless, having led to similar establishments, not only in Germany, but also in Great Britain. It is an example of what may be done with very small means, tracing its origin to the education of four fatherless children in the house of Franke, then settled as a clergyman at Halle. This orphan-house was established in 1695, and successively the various foundations now connected with it have been added, all of which are made to minister to the maintenance or education of the orphans. They may be thus divided.†

First. Those exclusively devoted to purposes of revenue, and which include establishments for the sale of books, drugs, and medicines. Second. The schools, six in number, viz. an elementary free school for boys and girls, a "higher" school for boys and girls, a superior school for girls, a "real school" for boys, a Latin school, and a "pædagogium."‡ Third. The educational institutions.§ These comprise the orphan-house, the boarding institution, and the pædagogium.

These establishments not only provide the public instruction of different grades, required by the citizens of Halle, but collect pupils from other parts of Prussia. As we are especially concerned with the orphan-house, I shall only briefly give an account of the intention of the other educational institutions, make some general remarks on the schools, and, omitting the first division, which sufficiently explains itself, pass on at once to an account of the orphan-house.

The educational institutions serve as the homes of the children who are collected here, and who use the schools in com-

* Franke was Professor of Greek and Oriental Literature, and pastor of a church at Glauca, a suburb of Halle, where he resided.

† This division is by Dr. H. A. Niemeyer, the director of these foundations, to whose kindness I owe the particulars which I give in respect to them, and an opportunity of visiting those parts of the establishment more immediately bearing upon the objects of my mission.

‡ These names will be found explained subsequently.

§ This term is used here in contradistinction to instruction, by education being intended training when the pupil is not in school.

mon with the day scholars from the town. All the buildings containing these various establishments are arranged about courts, which communicate with each other, so that the whole series is closely connected. They are very plain, having been erected with a view to furnish the necessary accommodations with the smallest possible expenditure.

The *Boarding Institution* is a large establishment, intended to provide for the education of pupils when not occupied in school. The boys residing in it are under the direction of tutors, each of whom has a division to superintend, and in relation to which he is to supply the place of the parent. As many as eight pupils occupy a room, thus making the expenses of lodging but trifling, and rendering the institution entirely accessible to the middle ranks of society.* The schools which the boys attend are selected in reference to their destination in life. They dine in common, having two tables at different rates, a plan which, however, is not approved of by the director.

The *Pædagogium.* This is a boarding-school, but is entirely distinct from all the other establishments, providing education and maintenance within itself. It is intended to prepare young men for the universities, and, in its educational arrangements, to afford an effectual substitute for judicious parental control. There is a small parlour and sitting-room for every two young men, and four such suites of rooms are upon one floor, three of them occupied by the pupils, and a fourth by a tutor, who is expected to be their friend and director as well as instructor. The execution of this plan depending upon the personal character of these tutors, has various degrees of success, but in general it works well. The instruction is of the same grade as that of the gymnasia, or grammar schools of Prussia.

The series of *schools* embraces the whole range of public instruction. It begins with the common or elementary schools,

* They pay but from eighty to one hundred rix thalers, fifty-six to seventy dollars, per annum, for maintenance and education, every thing except clothes and books being provided.

in which the instruction terminates at the age of twelve or fourteen years; contains a "higher" or middle school, called, also, a "burgher school," the courses of which end at fourteen or sixteen years, and where the pupil is prepared to enter life as a tradesman. Also, a "real school," its courses ending at sixteen or eighteen, and intended to prepare for the higher mechanical occupations; and a classical school, or "gymnasium," retaining its pupils until eighteen or nineteen years of age, and fitting them for admission to the university.

As the elementary school does not prepare for the middle school, the latter has its own elementary classes, and after passing through them, the student enters the real school, or the gymnasium, according to his destination in after life. Each school has its inspector or head master, appointed by the director, and responsible to him. And the head of the whole is the provincial school-board of the Province of Magdeburgh, who cannot, however, change the system without the consent of the director. This collection of schools furnishes an epitome of the grades of public instruction in Prussia, exclusive of the schools for teachers and industrial schools; and had I not become acquainted with them by careful study in the capital, a prolonged visit to Halle would have afforded a compendious way of acquiring a knowledge of them. In the schools of the capital there are, however, advantages in regard to the means of procuring teachers which cannot be expected here. As the schools of Prussia will be described particularly in the second part of my Report, I shall confine my remarks at present principally to the middle and classical schools, which are attended by the pupils of the orphan-house.*

* The number of pupils in the different schools, in 1837, was as follows:

| | | | |
|---|---|---|---|
| Free School for boys | 350, | in four | classes. |
| " " " girls | 350, | " | " |
| Burgher School for boys | 600, | twelve | " |
| " " " girls | 400, | eight | " |
| Superior " " " | 100, | six | " |
| Real " " boys | 150, | five | " |
| Carried forward, | 1950, | | |

*General Administration.* The director of the Franke Foundations is appointed by his predecessor, and the office has remained, generally, up to this time, in the family of the founder. He has the chief control of the administration, being responsible, however, in regard to the schools, as already stated, to the provincial school-board, and making a report of his expenditures to the Minister of Public Instruction. He is assisted by a council composed of a co-director, as an "economy inspector," of a syndic, who is the law-officer of the institution, and of a treasurer. These, as well as all other officers, are appointed by him. He has, also, a secretary, and there is an accountant, who assists the treasurer. All benefices, stipends, places of orphans, &c., are granted by the director; all regulations also are made by him, and he is thus supreme within the institution. The immediate administration of the orphan-house, however, is under an inspector.

*Admission, Discharge, &c.* To be qualified for admission to the orphan-house, a child must be poor, fatherless, legitimate, healthy, of good morals, and between ten and fourteen years of age. It is preferred that his parents should have belonged to the middle classes of society; and if he have property, or receive property during his stay in the house, the income of it must go to the foundation during his residence there.

Applications for admission are addressed to the Director of Franke's Foundations, and must be accompanied by certificates of the birth of the child in wedlock, the death of the father, of vaccination and general good health, of previous attendance at school; and, from the child's guardian, and the

| | | |
|---|---|---|
| Brought forward, | 1950, | |
| Gymnasium or grammar school | 300, | in six classes. |
| Pædagogium | 80, | five " |
| Total, | 2330, | |

In the establishments for education there were at the same time, in the orphan-house 114 boys and 16 girls, in the boarding-school 230 boys, and in the pædagogium 80, total 436. These pupils attended the schools, and are counted in the numbers above stated.

chief magistrate of his dwelling-place, of the pecuniary and family circumstances of the applicant, and of his surviving parent. These are sent to the inspector of the orphan-house, who reports thereon, and if the report is satisfactory to the director, the child's name is inscribed on the list of candidates. Admissions take place according to the order of application, and when there is a vacancy, due notice is given of it to the friends of the child whose name heads the list of candidates. If the child is not presented, and his friends are not heard from at the appointed time, his application is considered to be withdrawn. Cases of withdrawal of the application, or of the death of the child are, however, expected to be reported to the director. On the arrival of the child at the institution, he is reported to the inspector of the orphan-house, by whom he is assigned a place. All control over him is understood to have been relinquished by his relations, who are enjoined not to interfere with him in any way, always excepting the right of complaint to the director. Any pocket-money intended for the child must be handed to the inspector, under penalty of his dismission.

Those pupils who are found worthy, are sent to the university, but, in general, they all leave the institution at about fourteen years of age to go to a trade. In cases of misconduct, the friends are bound to receive them back. The institution does not undertake to find situations for them on leaving it, but endeavours so to do, advising with their friends on the subject. Those who leave the institution with credit, are entitled to certain small gratuities.

As the parts of the establishment intended for the residence, instruction, performance of religious exercises, and taking of meals, of the orphan pupils, are distinct in their administration, I shall consider the occupations of the pupils under the divisions of the house, the schools, the refectory, and the chapel, to the discipline of which the orphans are subjected in turn, during the day or week.

*The House.* The orphan-house is superintended by an inspector, who is responsible to the director of the Franke Foundations. This latter directs the disbursement of moneys for the

school, and all its officers are paid directly from the treasury. The inspector must be consulted before any change is made in any of the rules regarding either economy or instruction. He has a certain sum of money put at his disposal for contingent expenses.

Under this inspector are four tutors, who live in the house, sleeping in the same dormitories with the boys. Two of these at a time, and in rotation, have the superintendence of the boys out of school, in their walks and play, one having charge of the boys who are attending the gymnasium, the other of those who are sent to the burgher school. They are also present during the study hours, when they are expected to assist the pupils in their lessons. To aid in maintaining order, and to help the pupils forward in their studies, there are two monitors placed at each study-table, who are selected from among the elder boys, and have charge of the younger ones. They report weekly to the tutors, and then, in a meeting at which the inspector presides, make report to him, and act as a council in advising in regard to measures of discipline. This arrangement, by which each study-table has its chief under the supervision of a tutor, is common in the boarding gymnasia of Germany, and is productive of excellent results. It is said that, in old times, it had degenerated into a system of fagging, and, indeed, one of the rules of this orphan-house was obviously adopted in reference to such a case; but the superintendence by the tutors, the careful selection of the monitors, and the improved state of general feeling in these schools, have entirely done away with the abuse.

The rewards for conduct and scholarship consist of books, of permissions of absence, walks, &c.; the punishments are, the suppression of indulgences, excluding from table, admonition, confinement, corporal punishment, and dismission. Offences against morality are severely punished, and, unless a reform is produced, the offender is dismissed. Scrupulous modesty of deportment is every where enjoined and exacted, as a necessary safeguard from the approaches of vice.

Though it is expected that the religious instruction provided

in the house and school, will produce and foster moral and religious dispositions, great reliance is placed upon the moral training, by the good example of the tutors and of the elder boys. Experience proves that the orphan-house gives more satisfaction in regard to discipline, than either of the other establishments, and that of the orphans who leave it, those who enter into trades, and similar occupations, less frequently fall away from rectitude than those who go to a higher career.

The inmates of the orphan-house have the usual Christmas, Easter, and summer vacations, and those who have friends are allowed to go home at these times: for those who remain in the institution, a temporary order of the day is adopted.

The health of the pupils is reasonably good, but their physical development not remarkable. The number of sick is usually about two out of the one hundred and fourteen inmates of the boys' orphan-house. The boys have a play-ground and garden in which to exercise. Wednesdays and Saturdays are half-holidays. The physician in chief visits this as well as the other houses of the foundations daily, and may be called on when required.

Voluntary manual labour in the field or garden, is the principal means of the physical education of the elder boys, and certainly contributes very materially to their health. The boys have no mechanical occupations, which, considering the future destination of most of them, may be regarded a defect, in as much as general manual dexterity is easily acquired at an early age, and almost as a play.

The pupils clean their shoes, sweep their rooms, &c., for themselves, and make and attend to the fires in weekly turns. They thus early acquire habits of waiting upon themselves, which will be advantageous whatever may be their success in after life.

The outer clothing is renewed yearly, and they have on hand always two suits for winter wear, and three changes of linen. A frock-coat for the street, of dark cloth (iron-grey), and a jacket for study and play. The clothes are marked with a number. The linen is changed but once a week. The washing in the morning is done in basins, and each boy carries his own

to the lavatory. Two boys use the same towel, which is changed but once a week. All these arrangements are far inferior in character to those of the schools of England which I have described, and, with a few other details of police which I need not mention, struck me as particularly defective.

For both departments, male and female, of the school, there are two superintendents of clothing and quarters, and five servants, three male and two female.

When a bill is presented, it is handed for examination and approval to the officer who has received the article, then to the accountant, who examines and certifies as to the calculation, and then to the director, who orders payment, and finally to the treasurer, who pays the amount. The cost of the institution in 1837, was ten thousand nine hundred and fifty dollars, for one hundred and fourteen boys and sixteen girls, or eighty-four dollars for each pupil. Of the total sum contributed to all the foundations, the state gives about ten thousand five hundred dollars, which is nearly half the whole revenue.

There is no matron in the establishment for boys, and indeed throughout Germany, there is a great tendency to place all police and instruction in the hands of men. This probably arises from the circumstances of the country, where competition for all situations which yield a support is very great, and from the respect in which teachers and those having the superintendence of youth are held, which induces a considerable number of men to prepare themselves specially for these offices. The exemption from military service, which these situations procure, is an additional cause no doubt of the abundance of candidates for them. The Prussian system of education has, indeed, addressed itself too exclusively to the male sex, a defect, however, which measures have already been taken to remedy.

The arrangement in regard to breakfast in this and in the other educational institutions of the Franke Foundations, is peculiar, and intended to habituate the boys to dispose properly of money. They receive each a certain sum weekly; just enough to buy the portion of bread and milk absolutely necessary for breakfast for each day, and lay this out as they please.

A want of due regularity brings its own punishment, in the loss of the meal. Combinations of several might enable them, perhaps, to evade this regulation, but such are happily contrary to the spirit of the school. In a modified form, such a regulation would fall-in very well with the ideas which I have heretofore expressed as to the importance of gradually increasing the responsibilities of a boy, to fit him for his entrance into life.

There are two dormitories, in each of which two tutors sleep, the youngest boys go to bed under the charge of the older ones, and of a tutor, and the others follow. Each boy has a separate bed.

*The Refectory.* This is under the charge of a steward, who provides the boys of the boarding-school and of the orphan-house. There are three different qualities of diet, that of the orphans occupying the middle place, which are furnished by contract, at a certain rate for each pupil. The quality of the provision is insured by the attendance in the hall, in rotation, of the teachers, and the daily attendance of the economy-inspector of the foundations, and further, by sending at each meal a specimen of the dishes from the middle table, in a vessel with a locked cover, to the director, or his deputy.

The pupils repair to meals under the charge of their tutors, a grace is said, and after dinner thanks returned. No loud talking is allowed. The knife, fork, and spoon of each is brought by him to the refectory and taken away again.

*The School.* The school which the boys of the orphan-house in general attend, is that called the "burgher" or citizens' school, sometimes also called middle school. Its objects are thus defined—first, "so to train the sons of citizens by instruction in useful science, that, at the age of fourteen years, they may be in a condition to begin a handicraft, or other trade;" second, "to prepare the pupils for the lower classes of a gymnasium, or for the classes of a real school, to accomplish which latter purposes Latin and French are taught."

The lower classes are in fact those of an elementary school, and the boys who leave the orphan-house at fourteen, are instructed exclusively in this establishment. The few who are

selected to remain after fourteen go to the Latin school; Latin and French both are, however, studied in the upper classes of the burgher school, and the aptitude of the orphan pupils for language, is thus put to the test. The school is divided into four classes in reference to the progress of the pupils, and each is subdivided for convenience, with a teacher to every subdivision. Thus the same teacher gives instruction in all the subjects of study, to a class of boys numbering on the average about fifty.

The branches taught are:

Exercises of speech and thought. Bible history.

Religious instruction. Mental and written arithmetic.

Elements of geography. (Knowledge of home.)

Reading and writing taught together. Reading. Calligraphy. Stories from history.

German grammar. Composition. Geography of Germany. German history.

French grammar. General history. Higher arithmetic.

Elements of geometry.

Bible lessons. Christian morals. Christian doctrines. Elements of Latin.

There are teachers of singing and drawing, besides the regular class teachers. The pupils are examined privately once every six months, and publicly at Easter, when the change of classes takes place.

The exercises of speech and thought, the first subject on the above list, constitute the breaking-in, as it were, of the child, and being at the very threshold of instruction, try the teacher's skill more than many a learned branch. He must teach the pupil to think, taking care that his thoughts are expressed in appropriate words. Pestalozzi, who first practised upon this idea, drew the child's attention to the human frame, as the subject of contemplation; others have preferred to bring him in contact with nature, in general, by making simple natural phenomena the basis of the inductive lessons; others, not surrounded by nature, make man and his dwelling their theme; others introduce simple lessons on objects of nature and art, which can readily be presented to the child for his examination.

and on which as a basis to rear the superstructure of natural history, physics, and technology, in his advanced course. All these are good in their way, but such as I saw tried seemed to depend for their efficacy upon the circumstances of the school, and to be better or worse as the child found means to apply his newly acquired powers of perception, to observe for himself. Of all the plans, when the school is rightly situated for it, a reference to nature produces the best training of the heart, as well as the mind of the child. It would be impossible to present, here, even extracts from the numerous works which contain the methods employed in these exercises. I trust, however, that the board will have an opportunity of witnessing similar ones in our own institution, and that they will consider the power to carry them out an important qualification for a teacher in the elementary department of the Girard College.

The Bible history and religious instruction next referred to, are principally given orally, the morals of the Bible and the events which it describes, being put into such a form that when the sacred book itself, at a later day, comes into the child's hands, he is prepared to read it with proper interest. This plan is diametrically opposed to that which employs it as the beginner's horn-book, and from which, I feel bound to say, I have never seen any good result.

I cannot enter into details in regard to all the branches, but must be satisfied with noticing two which are here taught particularly well, namely, reading and writing, and geography.

The reading and writing are taught at the same time, according to the method of Harnisch, developed by Scholtz. The child makes a letter on his slate, after a copy upon the blackboard, and is taught to name it. The German language having a fixed sound for each letter, when the sound of the letter has been learned, not its common arbitrary name, but the sound which it has in composition, the pupil has made some progress towards knowing how to form combinations, which is the next step, the vowels being placed alternately before and after the consonant. These combinations are first written on the slate, and then pronounced. The next exercise consists in

placing a vowel between two consonants, which is followed by other simple combinations. These being classified by careful study, the child is soon able to compose simple sentences, in which his ideas are developed, so that the mechanical operation of writing and of reading is interspersed with intellectual exercise. In this the talent of the teacher is strikingly exhibited, and a prescribed routine of instruction would fail in its object. The written letters being once learned, the next step is with the printed, and a reading book is not introduced until the child has felt the necessity of it in his further progress. It is then a relief, and not a task.

I saw, here, a class which had been under instruction for only nine months, the pupils of which wrote short sentences very legibly in a hand of medium size, spelled them correctly, and read them distinctly.

This method of learning to read is, in a great degree, inapplicable to our language, in which the vowel sounds are so numerous; but the union of reading and writing may have its advantages. The characters of the ordinary German writing are composed of very different forms from those of our round hand, and which are more simple, and, in general, angular; hence no considerable dexterity of hand is required to trace the letters, and only a brief practice in elementary forms is required. I saw classes of children of ten and eleven years old, at Zurich, who, by being constantly practised in this method from their earliest instruction, had acquired a very striking facility of expressing their ideas clearly and correctly in writing. The method produces a facility of composition, in writing, as that of Jacotot does a fluency in speaking. The orphans entering at ten years of age, do not, in general, pass through this class.

The geographical instruction, founded upon the method of Pestalozzi, proceeds on strictly inductive principles, and is an example of how much may be done by making the pupil proceed from the known to the unknown. The following was the course of a recitation which I attended on the subject. The teacher drew, first, from the knowledge of the pupils of different objects or bodies, a definition of the term body, then led them

to define extension, dimensions, &c., and thus furnished them ideas of space. Sunrise and sunset were used for establishing the position of the cardinal points, and that of the class-room was determined in reference to these. Then commencing with home, with a map of the city of Halle, they gave an account of its localities, and the history connected with them. Widening hence in circles, the natural and political features of the surrounding district were described, always indicating the real directions of places, &c. The pupil thus grasps every step of geographical knowledge; begins with his own house, rambles through his own town, makes excursions in its neighbourhood, sets out on his travels through his fatherland, visits foreign parts, sees what is worth seeing in the natural and artificial state of the country, finally learns the relation of its parts and of the whole to other worlds, and thus the interest is kept up from the first to the last. The reverse method I compared with this over and over again; some teachers have found this tedious, others have mixed the two systems, but, judging by the comparative results, I give this method greatly the preference over others, as not only teaching geography, and connecting history with it, but enlarging the general intelligence, while it improves the memory. In the upper classes, the pupils use maps without names, and draw maps on the board, marking localities, &c. At other times, the places are indicated by one pupil, and named by another, with other variations of exercise. In the lower classes, the responses were frequently repeated by the whole class, and in the upper classes the instruction was more addressed to individuals. With all the inherent merits of this method, I have seen it wholly marred by a dull teacher.

The inductive method applied to any branch of knowledge requires time, patience, and some skill on the part of the teacher. The routine method, or positive teaching, is much easier to the instructor. The former at every step unfolds the mind, the latter frequently overburthens it. If the positive knowledge acquired by the first is entirely lost, the habit of thinking remains, while, if acquired by the second there is nothing left unless some improvement of memory, and general development of the reasoning powers.

A pupil who has properly improved the advantages of this school, will have acquired a reasonable knowledge of the German language, of reading, writing, and arithmetic, of geography and general history, will be familiar with the history, morals, and doctrines of the Bible, and his general mental and moral development will be such as befits his age. If especially industrious or apt, he will have had an opportunity of beginning Latin and French, and if he prove to have a facility in language, will be transferred to the Latin school. It would seem that, if he have a peculiar disposition for mathematical studies, he should be sent to the real school* to prepare him for one of the higher mechanical callings; but no arrangement of this kind yet exists. There are, indeed, some obstacles to it, as for example the difficulty he will find of a support before he receives employment in one of these higher callings, the necessity for patronage, capital, &c. None, however, I believe are insurmountable. If he should have had this advantage, on reaching seventeen years of age he would have added to his stock of knowledge—

Further acquaintance with German and French. Latin and English if required, though not regularly taught.

History and geography.

Natural history. Mathematics.

Practical arithmetic. Physics and chemistry.

Religion.†

Improved writing, and drawing.

The Latin school, into which the more intelligent pupil now actually enters, conforms to the general plan of the Prussian gymnasia or grammar schools, which will be more fully des-

* This school is designed to complete the education of those intended for "shopkeepers, higher trades, economists, military men, architects, or foresters, and especially for those callings for which a learned course is not necessary." This real school has only been added to the other institutions since 1835. It has five classes.

† The eight branches just named, beginning with history and ending with religion, are classed in the programme as "sciences." The school-money for the year is twelve thalers, equal to about nine dollars!

cribed hereafter. This gymnasium has six classes, divided each into two parts, and forming a connected series of instruction, one part being six months behind the other, except that the pupils of the two parts are sometimes assembled to listen to the same lecture.

The branches studied are: Religious instruction, Latin, Greek, French, mathematics, elements of physics, history, psycology, and logic. Poetry and rhetoric, and Hebrew or English, as the student may desire.

The degrees to which they are carried, the preparation being for the university, may be known from the studies of the first division of the highest or first class.

1. *Religion.* Christian morals from Niemeyer's Manual, for the upper classes of the higher schools. Explanation (by lecture) of the references to the New Testament in Greek, &c. 2. *Latin.* (By lecture.) Introduction to the development of rhetoric among the Greeks. Cic. de. Orat. Extempore exercises from translations of prose and poetry, &c. Lecture on Horace's Epistles, two books. Satires, one book. History of poetry among the Romans. Life of Horace. Review of odes. 3. *Greek.* (Lectures.) Life of Demosthenes, and selected orations, Philippics, for peace, &c. Written exercises from Euripides. Sophocles. (Antigone, Œdip. Colon.) Introduction (by lecture) to the rise of the Greek tragedy, the arrangements of the stage, &c. Extempore reading of selections from the Iliad. (All these lectures in Latin.) 4. *Hebrew.* Joshua. Psalms, 69 to 72. Jonas. Joel, 1st and 2d, with analysis. Written exercises. Lectures on Psalms 1 to 18, analytically. Hebrew syntax. Selections from translations of the New Testament into Hebrew. 5. *German.* Poetry and rhetoric, by examples. Prose and poetical exercises. Directions for private reading. 6. *French.* Voltaire's Brutus and Zaire. Exercises in style. 7. *English,* (a choice of this language or Hebrew) Vicar of Wakefield. 8. *Mathematics.* Progressions. Combinations. Logarithms. Binomial theorem. Plane trigonometry. Elements of physics. 9. *History* of the middle ages, from Schmidt's Iconography of the history of the middle ages, and later times. 10. *Psycology* and *logic.*

The lectures alluded to, throughout, are rather informal explanations, generally extempore, by the professors, and of which the students usually take notes. They are, in the case of the classics, mostly analytical, critical, and historical. The elements of physics are such a general view of the subject as can be had by the aid of a few simple mathematical principles. The psycology is that of observation (empirical so called) now so popular in the German and French schools. It must be evident that if the pupil arrive at a proficiency in such courses, he cannot be said to have commenced the study of the learned languages too late in life, and yet his first lesson of Latin grammar has been begun at nearly thirteen years of age.

The following is the order of the day, by which these various arrangements are carried out, divided into two columns, one showing the occupations of the older, the other those of the younger boys.

*The Elder Boys.*

Rise at half past four in summer, half past five in winter, wash and go to study until seven o'clock.

Breakfast at seven, and have recreation until eight.

Are in school from eight to eleven.

Have an hour of drawing, or mutual instruction, on two days in the week.

Dine at twelve.

Are at liberty to occupy themselves on the farm or in the garden until two, P. M., or are free until one, and have a drawing lesson of an hour, according to the season. On Saturday change their linen.

*The Younger Boys.*

Rise at five in summer, and quarter past five in winter. Brush their shoes and wash.

Breakfast at seven, and study until eight.

Are in school from eight to eleven.

Study until twelve, except those intended for the classical school, who take a Latin lesson.

Dine at twelve.

Brush their clothes, and, on Saturday, change their linen. In general, are free four days, and take a drawing lesson two days, from one to two. A few learn French two days in the week.

Are in school four days and at study two days in the week, until four, P. M.

Receive, at four, a piece of bread, and may engage in work in the garden or farm until five, and on Wednesdays and Saturdays, in winter, study.

Study from five to seven two days, from five to six two other days, and occupy the remaining time with a singing lesson. Walk on two other days in summer.

In winter study, except twice a week a singing lesson of an hour.

Supper at seven.

Are allowed to work in the field from seven to nine in summer, and play in the house from seven to eight, and are occupied in mutual instruction from eight to nine in winter.

Study from nine to ten.

Are in school four days in the week, or walking with the tutors two days until four, P. M.

Receive a luncheon of bread at four, and play in the yard; on Saturday walk until five.

Study two days, and receive singing lessons four days in the week from five to seven.

Supper at seven.

Play in summer out of doors, in winter, in-doors, until eight. Voluntary occupation and prayers.

The fourth class goes to bed at nine.

The third class studies until ten.

As all the particulars of this distribution of time have been carefully studied by the directors of this institution, and in the true spirit, it merits especial attention. In passing it briefly in review, I would call attention, first, to the portions of the day devoted to occupation, recreation, and domestic duties. These are, in summer, about seventeen and a-half hours, and in winter sixteen and a-half for the upper classes, leaving but six and a-half in the former, and seven and a-half in the latter to sleep. I confess that both allotments seem to me entirely too small for boys about twelve years of age; and, indeed, such as would scarcely be adapted to the average of full

grown men. The allowance is so small, compared with that of every other institution, that, had I not derived the information from the director himself, I should conclude there was some mistake in the matter. The younger boys have an additional time for sleep, the youngest having an hour and a-half, nearly, more than the eldest, and the other three classes about half an hour more. The general arrangement is highly judicious, but it seems to me doubtful whether so great a difference is necessary between boys of ten and fourteen. For the purpose of comparison of this and the other heads of my remarks with other schools, I have placed in the Appendix, No. VIII., a table containing an abstract of the orders of the day of some of the principal schools which are described in this Report.

Next, in regard to the distribution of the day into time for study, for regular school duties, for the extra school duties, for play, and for domestic concerns, the amount of time devoted to each for the elder boys stands thus, on the general average. For study and school in winter nearly eleven hours, in summer nearly ten and a-half; for play and domestic occupations, in winter, about five and a-half hours, and in summer, about seven hours, the amout of hours employed in study and school exercises being nearly equal in winter, and about in the proportion of four to five in summer. With the German plan, in which so much of the instruction is communicated orally, and at this age of the pupils, these proportions are, probably, quite just and consistent with a high intellectual development. That the development should be of the higher order, will appear by comparing the number of hours occupied in intellectual exercises in this school, with the allotment in the others, as shown in the table already referred to.

In relation to the succession of work and play, there are the following arrangements. In summer, in the evening, there are three hours of study, and in winter four; in the former case, two hours of recreation out of doors, and in the latter, one within doors. There is, further, time for preparation for the day's lessons, in the morning, of which an hour is set apart for this purpose. Two hours are passed, also, before school, in domes-

tic duties, some of which give bodily exercise. The school then continues for three hours, in summer, with an extra hour devoted to drawing or mutual instruction, and four hours in winter. There are two hours of recreation, then two hours of school, and again an hour of recreation, before the evening study. This succession is, it must be admitted, very judicious. An improvement, however, suggests itself, that there should be brief intervals of out of door relaxation between the school hours. It is true that this would be difficult, though not impossible, at Halle, where several schools open upon the same court. On Wednesday and Saturday there is no school in the afternoon, and the pupils walk out under the charge of their tutors.

In regard to the younger boys, the arrangement, except in the time of rising, is not materially different, until after the morning school at eleven, when, only a selected number of them, have one hour of instruction until twelve. From twelve until two, on two days of the week, some of the boys learn French, and all of them drawing, and on two other days they are free. This may be considered as an additional school hour to those of the elder boys, but it is to be remarked that the instruction is communicated, in great part, orally to the younger boys, and hence they require fewer hours of preparation and more of recitation. On Wednesdays and Saturdays, they walk from two to four, instead of studying as the elder boys do in the half-holiday, and study from five to seven, while the others are out. They have four hours more of lessons in vocal music than the elder boys. For all but the lowest class there is an hour of study, from nine to ten. The attention which has been paid to the minutiæ of these arrangements, shows itself every where. The director has the power to carry into execution as soon as he is satisfied of the propriety of a measure, and changes and modifications may be made immediately, whenever circumstances indicate their necessity.

The Sunday order of the day is the following: From rising until seven o'clock household duties, from seven to eight study, from eight to nine voluntary occupation, from nine to ten prayers in the common hall, from ten to twelve voluntary oc-

cupation, from twelve to two liberty to go into the garden, from two to four study, from four to seven voluntary occupations, and visits in the town, from seven to nine in the garden.

It would seem that there is a very scanty supply of religious instruction, but the school plan shows that this forms a part of the every day duty of the school, and that thus it is mingled with all the other exercises. The Sunday occupations, however inappropriate they would be deemed in an institution of Great Britain or the United States, conform to the tone of religious sentiment of the country, and hence I do not consider them a proper subject for comment or objection, in connexion with a single institution. The whole subject must excite much reflection.

## MILITARY ORPHAN-HOUSES AT POTSDAM AND ANNABURG.

These are both establishments for soldiers' children, and intended to train them for the service as non-commissioned officers. I present the first to the notice of the board on account of its well arranged system of physical education, discipline, and police, from which, though its object is different from ours, some useful hints may be drawn, especially in regard to the strict conformity of means to ends. I am induced to lay before the board the plan of instruction pursued in the second, because, the school has recently been re-organized under the direction of one of the most able and experienced teachers of Prussia; from a visit to whose school for teachers, and the establishments connected with it, I derived much instruction, and from whose experience and judgment this sketch of the organization of an elementary and middle school results.* I did not visit the school, which was out of my general route, because, having been but recently re-organized on that plan, there was no new experience to be gathered in regard to its working.

* I am indebted, for a manuscript copy of the excellent regulations of this school, to the kindness of its author, Dr. Harnisch, director of the seminary for teachers at Weissenfels, in Prussia.

## MILITARY ORPHAN-HOUSE AT POTSDAM.

*History, Buildings, and General Government.* This institution was founded in 1724, by Frederick William the First of Prussia. The reputation of Franke's Foundations induced this monarch to rival the benevolence of the clergyman, and to establish on a scale proportioned to his greater means, a house for the education of the orphans of his soldiers. While, however, the recipients of Franke's bounty are free to choose their career in after life, and only so far bound to the institution, as a sense of gratitude may prompt, the youth who passes through the Military Orphan-house of Potsdam, must enter the military service for twelve years. Three of these, indeed, are the term of service of every citizen, and I believe the three years in the non-commissioned officers' school are now counted as part of the twelve, and thus the actual number of extra years of service is reduced to six. The institution began with one hundred and seventy-nine children, both girls and boys being received; this arrangement continued until a few years since, when the girls' school was removed from Potsdam, and the establishment at present is for male pupils only. There are between three and four hundred in the elementary or boys' department. In the early history of the orphan-house two attempts are recorded to introduce manual labour, as a profitable speculation; neither of which appears, however, to have succeeded. The first of these, the manufacture of Brabant lace, was introduced in 1743, and after various modifications of the mode of applying the labour of the children, it was finally abandoned in 1795. In 1744, the culture of silk was introduced extensively throughout the kingdom, and especially enjoined at the orphan-houses; but this attempt was not more successful in the end than the other, and the culture is not kept up in this institution.

The present spacious buildings were chiefly constructed under the reign of the founder and of Frederick the Great. Additions have, however, been made from time to time since, and the whole plan is hardly yet completed. The institution may be considered as divided into three departments or schools; an

elementary school,* a trade school, and a music school. The buildings for the elementary school are erected about a spacious court, which serves as an exercising and play-ground. On the ground floor are the refectory, in which all the youth from the different schools composing the institution, meet three times a day, and the study and play-rooms, lavatory, &c. The study-rooms form a long range, and when the doors of communication are opened, one teacher can superintend the whole of the classes. The arrangement of the lavatory is defective, the boys washing together in a large stone trough. The school-rooms are on the first and second floors, and are calculated for divisions of forty boys each. There are six dormitories, furnished with wooden or iron bedsteads, the latter having been more recently introduced, and found to answer well. The bedding consists of a straw bed beneath and a mattress of hair above. Each dormitory is superintended by a teacher, who sleeps at one end of it. There are also dwelling rooms for the teachers, officers, &c., and in the court a very large wash-house, with a drying-room above it.

The buildings occupied by the trade and music schools are separated by a street from the others, and with the dwellings of the officers, a room for gymnastic exercises, and musical practice, and the workshops, form a second immense series of structures. The infirmary is near to them, and is under a separate direction; subordinate, however, to the general executive body. It is divided into rooms assigned to patients suffering from different complaints. A schoolmaster gives instruction to the convalescent. The arrangements in the dormitories of the trades' school, are similar to those used in the army, and the superintendence and discipline are strictly military.

The part of the building occupied by the music-school, contains separate rooms for practising by individuals, class-rooms, and dormitories. There are rooms in the main pile for the meetings of teachers, for a small library, &c.

* The literal translation of the title of this school is the boys' house, (das Knabenhaus.)

The executive board of this school depends partly on the ministry of war, and partly on that of public instruction; the former, however, is the controlling authority. Under this board is the military superintendent, or director, to whom the chaplain, the secretaries, the economist, the military superintendent of the day, the teachers, commandants of companies, the inspectors of the trades' and music school, and other officers, are directly responsible. The clergyman is the superintendent of the elementary school, and has a general charge of all the intellectual and religious instruction.

*Admission.* The orphan children of soldiers are received for maintenance, at any age, by the authorities of the establishment, but if under six years, are boarded with their friends or others until six, and then admitted into the house at Potsdam; they remain there until fourteen or fifteen years of age, and, if of sound constitution, are transferred to the trade, or to the music school, where they remain four years, and whence they pass, if their conduct has been good, to the school for non-commissioned officers. I have never seen a body of young men all so well physically developed as the pupils of the trade school, a result produced by constant attention to their education on this point. Children who are not healthy, or who have failed in the elementary school, are apprenticed at fourteen, and the institution ceases to have the charge of them.

*Education.* In the *Elementary School*, the usual branches taught in the common schools of Prussia are pursued, including reading, writing, arithmetic, the German language, geography, drawing, religious instruction, and a little natural history. The boys are divided into four classes, according to their proficiency, and all the classes below the first are subdivided into two sections, each being under the charge of a teacher, and having a separate recitation room. These sections contain about forty pupils each. A monitor of order from among the pupils, has charge of a section on entering and leaving the school-room, and renders such service as the master requires during the lesson; he is assisted by one of the class in the distribution of the books, slates, and other implements of instruc-

tion. The teachers keep each a roll, upon which the character of the recitation and conduct of the pupils is entered, and which is examined weekly by the chaplain, and submitted to the board of teachers at their meetings. No youth, who is below a certain grade upon this roll, is permitted to enter the trades' school. There are about five hours of instruction on four days of the week, and about twenty-three in the whole week. The holidays are, a week at Easter, four days at Michaelmas, a fortnight in the latter half of July, and from the twenty-third of December to the second of January. For those who have no friends to go to, the Christmas festivities are kept up in the school, as in the private families of the country.

The board of teachers meet once every fortnight, and the director, or his substitute, or the chaplain, presides. At their meetings, all matters relating to instruction and discipline are discussed.

The form of the discipline of the school is military, but a spirit of mildness tempers it, suiting it to the age of the pupils. The boys, in general, are divided into four companies, each of which has a commandant,* who has charge of the instruction in military exercises, and ranks with the teachers of the school. These companies form a battalion, and are drilled without arms, and inspected by the director, or an officer appointed by him. In turn the commandants of companies, acting as officers of the day, have general charge of the military and police duties. Two of the teachers, also, in turn, act as inspectors of the day, and have the general superintendence of the pupils in study and recreation hours, in the duties of personal police, at meals, and in the dormitories, relieving each other at different parts of the day. They are co-ordinate in authority with the officer of the day, and he is expected to relieve and aid them in the maintenance of order. These officers report immediately to the director.

The four companies are subdivided into sections of eleven,

* A non-commissioned officer of the highest grade.

over each of which one of the boys is placed, with the title of overseer, or corporal, and he is responsible for the good order of his section, and may be assisted in his duties by one chosen from it. From among these corporals one is selected for the general control and superintendence of the others, and marches the company to the lavatory, to meals, to the dormitory, &c., being responsible for them whenever they are collected as a company. The boys composing a section are placed at meals upon the same side of the table with the corporal who has charge of them. The younger pupils do not join these companies at once, but are kept together in a division which is under female superintendence, has a separate overseer, and is under different regulations as to rising, going to bed, and other particulars of discipline and police from the elder pupils.

All the duties of domestic and personal police, and some of those of domestic economy, are performed by the boys enrolled in the four companies. They clean their own shoes, brush their own clothes, attend to the police of the different parts of the building, serve the meals, and make their beds. That the various duties may be attended to in an orderly way, there are, besides those already spoken of, special overseers appointed among the pupils, who have general charge of them while engaged in certain duties, and of particular localities. Thus there is an overseer of the room where the clothes and shoes are kept, who has charge of the exchange of the Sunday for week-day dress, and vice versa; an overseer of the room where the shoes are brushed and blacked; an overseer of the lavatory; four superintendents of cleanliness, who direct the pupils while washing and combing their hair; one of hair cutting; two of serving the table, who have charge of a detail of thirty pupils, who serve and clear the tables and clean the knives and forks; one, of the manual labour classes; one, of the sick in the hospital; one, of those who are unwell, and must report to the physician; one, of the lights; one, to prevent the passing of bounds; one of the pupils who sing the liturgy in the church; one to conduct the pupils, whose shoes require repairs, to the shoemaker; besides, those for the classes and the younger boys, already men-

tioned, and a few others. I make this enumeration in order to show the minuteness of the arrangements for police and discipline, and the extent to which they are conducted by the pupils themselves. The selections for appointments are made by the teachers and officers, and submitted to the chaplain and director for their approbation. A part of the pupils employed as superintendents receive small pecuniary allowances, and all enjoy many privileges.

Some of the pupils, who are found to have a taste for music, receive special lessons, and are employed, when sufficiently proficient, to give the signals for the different duties of the day. Eight pupils are thus selected to be taught the bugle and fife, and twelve the drum.

In regard to conduct, the pupils are divided into four grades, according to the reports of the teachers and officers, a revision of the classification taking place every quarter, and the director having, in the mean time, the power to displace a pupil in a case of emergency. The first class grade is composed of pupils distinguished for unvarying good conduct, and on holidays its members are allowed to leave the orphan-house alone to make small purchases at discretion, and are neither subject to corporal punishment nor to the stoppage of their meals. The second class is composed also of meritorious pupils, but of a lower grade of conduct than the first; they are permitted to leave the school sometimes, but not so often as the others, and are generally under supervision. From these two grades only, the superintendents or overseers are taken. Pupils of the third grade stand between those who are decidedly good or bad, and are treated accordingly. They are the last who are permitted to pass from the elementary to the trades' school, on completing their course in the former. Those of the fourth, or lowest grade, are kept constantly under supervision, have no allowances, no leaves of absence, are separated, when possible, from the rest of the pupils, and are even punished by an inferior diet. There were very few pupils in this grade when I visited the institution, in 1837–8, which was justly considered as an indication of its good condition.

The health of the pupils is promoted by frequent bodily exercise, and, when the weather permits, in the open air. Thus they have regular gymnastic exercises four times a week, are drilled by companies four times, and by battalion twice a week, take frequent walks, and, in summer, bathe every day. The regular manual labour in this department of the school is confined to knitting and tailoring. The gymnastic exercises are conducted by two teachers, each taking charge of one of the companies, of which two attend the lesson at the same time, and assisted by pupils selected from among the most proficient in the exercises. There are two swimming lessons given to each company, in summer, every week. In the ordinary division of the day, in summer, between two and three hours are allowed for manual labour, the same for recreation, two hours for exercise, and nearly eight for sleep.

Their clothing is a neat uniform jacket of blue cloth, of a military fashion, gray or white pantaloons for the winter, and a brown linen jacket and white linen pantaloons for the summer, and their officers are distinguished by badges similar to those worn in service. The diet is rather generous, (see the table, Appendix, No. VII.,) and, besides the three regular meals, bread is served to them as a luncheon in the morning and afternoon intervals. The mortality was, in 1831, but one in two hundred and twenty-three in the whole institution.

An opportunity is given to those who are to pass into the trades' school, to ascertain the trade which they may wish to follow, by a trial during the last year of the elementary course.

The order of the day, with merely slight variations during four days of the week, in summer, is as follows: The pupils rise at a quarter before five o'clock, and proceed by companies to the lavatory, two companies occupying it at once and alternating, the other two being, meanwhile, engaged in cleaning their shoes. Wash and comb their hair. At half past five the boys detailed to serve the meals proceed to the refectory under their two superintendents. At a quarter before six the bugle sounds, and the companies assemble, by sections, in the court-yard. Morning prayers and breakfast. Those who are slightly

sick report to the physician. At a quarter before seven, the boys assemble according to classes, and at seven are marched to the school-rooms. At a quarter before nine a luncheon of bread is served out to them. School closes at eleven, and the pupils are free for three quarters of an hour. Dinner at about a quarter before twelve. The pupils brush their clothes, and are inspected by the officer of the day. From a quarter past one to half past two, review the morning lessons in school. From a quarter to three until five, are occupied with manual labour in the work-rooms. Part of the pupils receive instruction in music, and the first and second classes in drawing; a stated number take a swimming lesson; the drummers, fifers, and buglers also have a lesson. A luncheon of bread is distributed. One of the companies is at drill, one at gymnastics, and the other pupils bathing or walking until seven. Evening prayers in the refectory, and supper. Wash, and have recreation until nine, when they retire. The younger pupils retire at half past eight.

In winter, the different occupations of the day are each one hour later than in summer, until half past two, when the hour of review of the lessons is omitted, and the exercises, as far as appropriate to the season, follow in the same order as in summer, until half past five, at which hour the pupils go to the school-room, and remain until a quarter before seven.

On Wednesday and Saturday, an hour in the morning is devoted to religious instruction, the other lessons being omitted, except the physical exercises on Wednesday. Stated days and periods of the day are assigned for the exchange of the week-day clothes for those of Sunday, for taking clothes or shoes requiring repairs to the tailor or shoemaker of the establishment, for hair-cutting and combing, for washing the neck and shoulders, the feet, and for other minute matters not necessary to be here presented, since a sufficiently correct idea of the order and exactness of the arrangements may be formed from the specimen of the order of the day already given.

*Trade School.* The object of this school is, in part, to economise the funds of the institution, by making within its walls

articles of clothing required for the pupils, but more to secure the acquisition, not only of general mechanical dexterity, but of a trade, which may serve to increase their emoluments when they enter the military service. There are, at present, one hundred and four pupils in the class.

In order to pass into the trades' school from the elementary division, the pupil must have reached at least the second class, have been above the fourth grade in conduct, be between fourteen and fifteen years of age, and of a bodily constitution fitting him for the military service. The course lasts three years. The school has a special inspector, or superintendent, who is responsible to the director of the whole institution, or, in fact, to his substitute, who has special charge of this and of the music school.

The different trades now taught here are those of blacksmiths, saddlers, tailors,* shoemakers, and lithographers. The last named has but seven pupils admissible to its school, and the next to the last forty-four. These numbers depend upon the demand for the occupation subsequent to leaving the establishment, the space required for the operations of the trade, the difficulty of teaching, &c. As each pupil is in general permitted, on advising with the inspector, to choose his employment, it sometimes happens that boys are sent into the town to learn a trade not taught in the school. Changes of occupation are very rare, but are sometimes permitted. The blacksmiths are principally engaged in the repairs of arms, the saddlers make the caps and accoutrements, &c. used in the house, the tailors all the uniforms, the shoemakers supply not only this orphan-house, but that of the girls with shoes, and the lithographers are occupied in copying forms for the school or war department, manuals, &c. They work about seven hours a day, under the superintendence of master workmen from the town.

An hour of each day is spent in gymnastic or military exercises in the open air in summer, and in winter in the large room

* At this trade the pupils were seated upon a form, or bench, around a circular table, and not, as with us, in a constrained position upon a table.

before spoken of. The military exercises, besides the ordinary ones, comprise some which are peculiar to the Prussian service. The usual exercises of gymnastics are introduced, omitting any which seem to have a tendency towards the tricks of the mountebank. A manual, compiled from Jahn and Eiselin,* is the guide of the teachers. For instruction in these exercises, the whole school is divided into two parts, and each again into squads, so that the teacher need have but twelve to fourteen under his charge. Non-commissioned officers are the under teachers, and in turn are superintended by higher teachers, and by an inspector.

There can be no doubt that to these well regulated and perseveringly continued exercises it is, in great part, due that the physical development of these youths is, on the average, so perfect. Judicious recreation, a proper diet and clothing, great cleanliness, a proper number of hours of work, of instruction and sleep, no doubt, are necessary, each and all in their degree, but great influence must be besides allowed to the gymnastic exercises.

The pupils have two hours of instruction during the day, intended to keep up their knowledge of the branches taught in the elementary school, rather than to teach new ones. Military drawing is, however, added to their former acquisitions.

When not in the shops, nor in school, nor at exercise, they are superintended by non-commissioned officers. The discipline in this school is military in spirit, as well as in details, and altogether adapted as a preparation to the life which they are to lead after leaving it.

*Music School.* Those pupils who have manifested a decided musical talent in the lower school, are here instructed thoroughly in the theory and practice of music. The object is to supply musicians to the regimental bands. These pupils have a separate superintendence from those of the other schools, and different

* Mr. Kiel, the superintendent of this department, has not only adopted the new exercises of Eiselin, of Berlin, but has made some very judicious improvements upon them.

hours of exercise and duty. They keep up the knowledge acquired in the elementary school, as is done in the trades' school. There are about forty pupils in the classes.

## MILITARY ORPHAN-HOUSE AT ANNABURG.

The course of instruction is divided into two parts, one an elementary course, consisting of religious instruction, arithmetic, the mother tongue, singing, writing, and exercises of induction, taught in four classes, between the ages of ten and fourteen. The other, a higher course, taught in three classes, and between the fifteenth and eighteenth years of age of the pupils. In order to rise to the place of a non-commissioned officer, the pupil must have gone through at least the lowest of the classes of the higher school. The subjects of instruction in this school are: religious instruction, arithmetic, singing, the German language, calligraphy, geography and history, algebra, geometry, trigonometry, and drawing.

The courses in the different branches are arranged as follows:

First. *Religious Instruction.*

LOWER SCHOOL.

VII Class. Bible stories, psalms and hymns, appropriate to the season. Four hours per week.

VI Class. Histories from the Old and New Testament, portions of the history of the Christian church, catechism. Four hours per week.

V Class. Reading and explanation of the Bible, and of its arrangement. The gospel and historical works are selected, and the history is connected with the geography of the Holy Land. Catechism. Five hours.

IV Class. Doctrines of the Lutheran church, taught by Luther's Catechism. Five hours.

UPPER SCHOOL.

III Class. Moral instruction, duties to God and man. Three hours.

II Class. Reading the Bible with comments, the pupils making abstracts. Three hours.

I Class. (Two years.) The first year a repetition of Luther's Catechism. The second, a history of the Christian dispensation. Three hours.

Every class commits verses from the Bible to memory.

Second. *Arithmetic.* Mental and written arithmetic are taught together, that

the readiness afforded by the one, and the accuracy of the other, may both be cultivated.

LOWER SCHOOL.

VII Class. The four ground-rules, with three places of figures mentally. Application to questions in weights and measures. Three hours.

VI Class. The same rules extended. Three hours.

V Class. Fractions, with applications to weights and measures. Three hours.

IV Class. Proportions. Three hours.

UPPER SCHOOL.

III Class. The applications of proportions to questions of weight, strength, value, time, and general quantity. Two hours.

II Class. Exercises in practical algebra. Two hours.

I Class. Review of the course. First year, practical operations. Second, theory of arithmetical processes. Two hours.

THIRD. *Vocal Music.*

LOWER SCHOOL.

VII & VI Classes. Practice of songs, adapted to youth of a cheerful, serious, military, or religious cast, with one part. Two hours.

V & IV Classes. Choral and other songs, with the different parts. Elements of music. Two hours.

UPPER SCHOOL.

III, II, & I Classes. More difficult choral pieces. Theoretical instruction continued. One hour. There is, besides, instruction given to a select choir, intended to conduct the vocal exercises of the church.

FOURTH. *Reading.* In the lower classes, a readiness in reading, and in the higher, the style of reading, is attended to especially. Pieces learned previously, by heart, are recited.

LOWER SCHOOL.

VII Class. A good pronunciation, and some facility in reading. Six hours.

VI Class. Readiness in reading, and repeating the substance of what has been read. Familiar illustrations. Five hours.

V Class. Reading some work in reference to knowledge useful in common life. Four hours.

IV Class. Reading, with attention to emphasis. Four hours.

UPPER SCHOOL.

III Class. Reading the Bible and Sacred Melodies, with the view to correct reading in this kind of composition. Two hours.

II Class. Reading various selected works, in and out of the class.

I Class. Reading continued, and recitations from works previously read.

FIFTH. *Orthography and Writing.* These may be taught together in the same way as mental and written arithmetic; the teacher is, however, at liberty to follow his own method.

LOWER SCHOOL.

VII Class. Copying on slates from the black-board. Four hours.

VI Class. Copying on paper, from the board, and from books. Four hours.

V Class. Writing from copy-slips, from books, or from dictation. (Practice in spelling and writing). Four hours.

IV Class. Similar exercises continued. Four hours.

UPPER SCHOOL.

III Class. Copying useful papers, such as registers, accounts, contracts, &c. Two hours.

II Class. Calligraphy, with Roman as well as German letters, practice in orthography, reading of letters and documents in various handwritings. Two hours.

I Class. Copying papers relating to the management of the institution, as a practical introduction to business. One hour.

SIXTH. *Useful Knowledge taught by induction.*

LOWER SCHOOL.

VII Class. The pupils give their ideas, verbally, of surrounding objects of the most simple kind, of the commonest productions of nature and art. Conversations relating to them. Drawing the most simple mathematical figures on the slate. Three hours.

VI Class. Descriptions of animals and plants, the former in the winter, the latter in the summer term. Written remarks on these, serving to afford exercise in the formation of phrases and in orthography. Four hours.

V Class. The most essential parts of physics and natural history, the pupils taking notes of the lessons. Four hours.

IV Class. Compositions on various subjects. Letters relating to civil and military affairs. Four hours.

UPPER SCHOOL.

III Class. History of Prussia and drawing of maps. Four hours.

II Class. General geography, particularly that of Europe. Passing from physical to political geography. Civil geography in connexion with the former. Five hours.

I Class. Universal history. One year is devoted to ancient and one to modern history. Selections are made of the more important parts of history. Five hours.

The remaining studies only belong to the higher school.

SEVENTH. *German Grammar and Style.*

UPPER SCHOOL.

III Class. Logical and grammatical construction of the German language taught.

II Class. Idiom of the language. Compositions on military subjects, with especial reference to correctness of grammar.

I Class. Acquaintance with the best writers. Exercises of composition on subjects taken from history.

EIGHTH. *Geometry.*

UPPER SCHOOL.

III Class. Teaching the names and properties of mathematical figures by induction, in connexion with drawing.

II Class. Equations, with application to problems of common life.

I Class. Elements of trigonometry.

NINTH. *Drawing.*

UPPER SCHOOL.

III Class. Drawings from common objects, varying the positions, &c.

II Class. Copying flowers, or drawings of implements.

I Class. Architectural drawing with instruments, drawings of furniture, &c.

I have allowed myself to present this extended programme, because it conveys, in as brief a compass as possible, excellent ideas of the succession of courses in an elementary school, and in a technical or trade school, for such the higher school must be considered. It should be remembered that the main purpose is the preparation of youth for the military service, and hence that the wants of the service are especially consulted. Another fact must be remembered, namely, that this is a Lutheran school, and therefore the religious instruction is adapted to the particular views of that church. The course of morals of the third class, I must say, however, seems to me out of its place, for although our duties to God and our neighbour are of course best learned from his Word, yet their inculcation by precept and example cannot commence too early.

In the arithmetical course, the union of mental and written arithmetic is absolutely essential. The gradation appears to me good, and the application to questions of common life gives a zest to such studies, attainable in no other way. The theory of arithmetical processes, however, should accompany or follow more nearly their practical acquisition. Indeed, if they are taught as they ought to be, by induction, the theory goes with the practice.

If the youth at Annaburg take the same pleasure in the exercises of song, from the elements to the completion of the

musical course, as those of the school actually superintended by the author of this project, the success will be complete.

The connexion of orthography and writing, especially if combined with early reading, is natural.

The exercises of induction, which in the lower classes are well drawn out, deviate from the appropriate track in the fourth class, and in the geographical and historical courses do not return to it. The system in both these branches is rather synthetical than inductive. There is a great temptation to break away from this method, into that of giving positive instruction, from the apparently greater rapidity of progress of the pupil; some teachers have abandoned it altogether, as too slow, though ultimately to their cost, as appeared to me in cases where I had an opportunity of comparing the results.

The writing is preceded by an introduction course of drawing, which might with excellent effect be so extended as to branch out into complete courses of drawing and writing.

As this plan results from an extended experience, the number of hours of instruction, per week, necessary to secure the results, is an important datum, and as such I have retained it, whenever it was inserted in the original programme.

## CIVIL ORPHAN-HOUSE AT POTSDAM, AND ORPHAN-HOUSE AT LITTLE GLIENCKE.

Besides the Military Orphan-house at Potsdam, there are two other orphan-houses at and near the city, the general arrangements of which I propose here to describe. From their limited number of pupils, and other peculiarities, they will not require a full discussion.

The founder of both these interesting establishments is counsellor Von Türk, whose enlightened benevolence, aided by the means of his friends, has furnished homes and education, in one of these establishments, for the sons of deceased physicians, clergymen, &c., and in the other, for the orphans of country schoolmasters, and of the inferior officers of government. The first, called the Civil Orphan-house of Potsdam, has twenty-four

pupils under its charge, of whom sixteen reside in the house, the others being assisted at the dwellings of their mothers. The pupils first enter the excellent burgher school of Potsdam, and when they have reached its first class, (or at between thirteen and fourteen years of age,) choose, according to their disposition and talent, their future course. According to this, they pass to the trade school, the school for teachers, or the gymnasium. Those of ordinary parts are apprenticed at fourteen. A teacher lives with them and superintends their studies.

Those who have passed through the gymnasium, are supported at the universities by foundations. The road is thus opened to merit in any direction in which it may exhibit itself. The institution is merely the home, and the public schools afford to it, at a very cheap rate, precisely the kind of instruction which is required. The advantages here given to particular orphans are, doubtless, those which our founder intended to be extended to all, and that within the institution itself; an idea requiring means no less ample than those which he has devoted to it, to secure its successful execution.

In the Orphan-house of Little Gliencke, the pupils receive such an education as may fit them for mechanical pursuits, or as introductory to the profession of a teacher in the elementary schools of Prussia. Provision to receive a higher education is made for those who distinguish themselves. The pupils are engaged a portion of each day in manual labour: in summer, in agriculture, the rearing of mulberry trees, and in gardening, having also an opportunity to learn the management of bees and silk-worms. In the winter, with manufactures of straw and making nets, and some of the elder boys in joinery work, modelling, and smithing. The number of boys is only thirteen, so that but one teacher is needed, who lives with them constantly, giving, himself, nearly all the instruction. Counsellor Von Türk takes a share in some departments, to which he has especially devoted himself, as for example the connexion of arithmetic and geometry. The discipline is of the family kind. The boys are divided into classes of two, three, or four, according to their progress. The teacher now in this school,

is one of those instances of ardent attachment and devotion to his profession, such as are more frequently seen in Prussia than in any other country to which my researches extended.

## ORPHAN-HOUSE OF FRANKFORT ON MAINE.

This establishment makes no pretensions to giving an education above that intended to fit its pupils for trades, but in the means taken to give them a general mechanical dexterity, applicable to their future pursuits, as well as in the paternal character of its discipline,* it is not surpassed by any of the institutions which I have visited. I am satisfied that this idea of the object of manual labour may be carried out to great advantage in our college, and indulge a confident expectation that, by a judicious selection of masters, the discipline of the institution, notwithstanding its enlarged scale, may be as mild as that of the school now under discussion.

The present buildings of the orphan-house are well situated, and commodiously arranged, with a neat garden in front, a pretty chapel at one end of the garden, and the other buildings on a long line at right angles to the front of the chapel. About a century ago the rights of orphans to education from the public were so little acknowledged, that they were ranked with offenders, or when better off than this, with adult paupers. There are many examples of both those connexions in the history of European orphan-houses, and the former existed in the case of the Frankfort establishment, until towards the close of the last century, the orphan-house being, up to that time, a branch of the correction-house. The present establishment shows what a great change in public sentiment has taken place since that period. The buildings date from 1829–32. The income is derived in part from landed and in part from funded property. It is managed by twelve trustees, usually selected from among the elder senators of the city. Under these is the head master, who controls all the in-door affairs of the

* This and the present improved general condition of the institution, are due to the enlightened efforts of the head master, the Rev. Mr. Schaeffer.

institution, and is responsible for its efficiency. He is re-eligible every four years, a tenure quite unusual in similar schools, but attended with advantages in some points of view. The economist or steward, who is the only officer allowed to be a married man, has charge, under the head master, of providing for the household. There are two assistant teachers, re-eligible every year.

The pupils are fatherless children, or, in certain cases, other destitute children and foundlings, the latter being paid for by the city. There are in all one hundred and ninety-five children at the charge of the institution, of whom ninety-five are boys, and thirteen very young children, who are boarded out of the house. The age of admission is six, and that of leaving the school between fourteen and fifteen, or after the celebration of their first communion. Places as apprentices are secured for those who are to leave the house, and they remain under its superintendence until the term of apprenticeship has expired. They are then presented with a suit of clothes and a sum of money, and their connexion with the orphan-house ceases.

The intellectual education is of the same grade, and embraces nearly the same subjects, as at Hamburgh; the division is here, however, into three classes, each of which has its master, the head master passing from class to class, and having special charge of the religious instruction, and of the exercises of induction, arithmetic, and the elements of geometry. I had occasion to hear a recitation of the youngest class with him in the inductive exercises, and to remark how much more difficult his task was than that of a teacher in the neighbouring school, who had a class of the same age in the same subject; in fact it required considerable exertion on his part to induce them to exercise their reflective powers at all. As a general rule in Germany, where the temperament is less lively than in England, youths in this situation, many of them, before entering these institutions, friendless, neglected, or ill used, require very peculiar management to elicit their mental powers, and in all the countries which I visited, I observed that boys thus situated are, in

general, below the average in animal spirits, and frequently in mental activity.

The assistant teachers superintend the boys by turns during the hours when they are not in school, an arrangement, of the advantages of which I have often spoken. These teachers are re-appointed every year, the trustees judging this method more advisable than any stipulations as to removal. In point of fact, they have generally, after a number of years' service, I believe, the offer of more important situations, and their places are supplied from the qualified pupils of the institution.

The discipline, in general, is addressed to the moral sentiments and affections. No prizes are given to stimulate to study. Keeping the boys from play or work, requiring them to work alone, admonition, solitary confinement, and, as a last resort, corporeal chastisement, are the punishments. The character of each pupil is studied, as far as possible, and the means of repression or encouragement are applied accordingly.

A diary is kept by each assistant-teacher, in which he enters not only the progress of every pupil, and of all the classes, but such remarks on the conduct as he may find necessary; the head master examines this diary, and confers with the under masters from time to time. There are, besides, regular meetings of the teachers held every week, as is usual in the German schools, and which serve not only to inform the several masters of the character and standing of each pupil, but as opportunities for giving and receiving advice in relation to methods of instruction or discipline.

There is one vacation in the year, new year's day, on which the pupils are allowed to visit their friends. During two hours on every Sunday afternoon they receive their friends, who are provided with tickets for that purpose. There are occasions, however, of breaking through this strict seclusion, by the occupation of the boys in services connected with the town, which take them out of the walls of the institution.*

* It is an evidence of the differences which prevail in regard to views of morals, that, while with us lotteries are abolished, these youths actually receive a pecuniary reward for drawing the lotteries of the city of Frankfort.

Besides the religious instruction in the school-room, the children attend chapel once on Sunday, and, as the services are Lutheran, the Roman Catholic children are sent to a chapel in the city.

The diet is more generous than that at Hamburgh, as they have meat for dinner three times a week. In regard to the kind of food necessary for nourishment, the practice of the continent, while it is no example for England, seems much more applicable to our country, as far as the similarity of climate is concerned. Though our winters are generally longer, they are not more severe than those of the middle of Germany,* while our summers exceed theirs in heat. The supply of clothing is nearly the same as at Hamburgh.

The discipline of the dormitories, wash-house, during the walks, &c., is rendered easier by the division of the pupils into squads of twelve, each having a monitor at its head. I am not aware that in any of these institutions the plan adopted at the London Orphan-house has been tried, of allowing the monitors to choose their own divisions; believing it to be attended with good results, I was anxious to see it further put to the test of use under different circumstances. It is under the charge of these monitors that the clothes are served out, and the usual duties of police executed. The dormitories are provided with iron bedsteads, each pupil sleeping separately. The assistant masters occupy beds in the two end dormitories, having thus a general superintendence of the pupils at night, as well as at rising and retiring.

The principal house-work being performed by the pupils, one male and one female servant only are required.

Besides the employment in handicraft work, two hours every day, the pupils have an hour of regular gymnastic exercises, and on Wednesday they walk, or bathe in the Maine, according to the season. They also do much of the household work which is not appropriate to girls, split and pile the wood, &c. The pupils, though in general healthy in appearance, were per-

* During my journey in the winter of 1837–8, the thermometer was reported once as low as — 61° Fahr., at Gotha, near the centre of Germany.

ceptibly less robust than those of some neighbouring schools. I do not, however, lay much stress on the comparison, as it leaves out of view many elements, as, for example, the important ones of the health of the parents, and the physical development of the children before entering, and I was satisfied that neglect of physical education could not justly be imputed to the institution. In sickness, a physician is called in, and the boys are transferred to the infirmary.

The handicraft employments are well arranged, so as to avoid two difficulties—on the one hand, that of forcing the inclination of a pupil to work which does not suit him; and on the other, allowing him to acquire habits of unsteadiness by going from one occupation to another. Each pupil is at liberty to choose which of the handicrafts he will engage in at the beginning of any quarter, but when his choice is made, he must remain in this division for three months at least, unless special reasons determine the master to permit a change. The manual occupations are making baskets, mats, cord, turning, bookbinding, working in iron and brass wire, shoemaking, and tailoring. In summer, gardening is added to the list. Some boys who have a taste for music, are afforded means of improving it. The little boys are occupied in knitting, a very general occupation in the German schools for young children of both sexes. Each trade has its own room, and its superintendent. There are regular instructors in those branches in which the teachers cannot give instruction. The articles made are none of them sold, but generally used in the institution.

The order of the day is as follows:

The elder boys rise at five in summer, wash and dress, and go to morning prayers. The younger boys rise at six. All breakfast between six and seven. The elder boys are occupied in tailoring, or cleaning the hall, or carrying wood to the kitchen, and other household duties, until seven. All have instruction from seven until ten. Are occupied at handcrafts from ten until twelve. Dine at twelve. Are occupied in personal police and play from one to two. In school from two until four, except on Wednesdays and Saturdays. At four, have a luncheon

of bread. From five to six, all are preparing for the lessons of the following day, except twelve, who are occupied by turns, from four to six, in the tailor's room. From six to seven, gymnastic exercises. At seven, take supper, which is followed by evening prayers. The younger boys retire at eight, and the elder ones are, in summer, in the garden until nine, and in winter engaged in handicrafts.

In winter they rise one hour later, but in general the order of the day is nearly the same as in summer.

By comparing the number of hours employed in this school and at Hamburgh, it will be found that, generally, they agree very well. In the intellectual education thus measured, this school is very little behind Hamburgh. It has considerable advantage on the score of the occupation in trades, while the other excels it in the opportunities for play and the exercises of gymnastics. If we judged only by the programme of studies at Halle, Hamburgh, and Frankfort, we should place the intellectual education on a par, except that in Halle some few in the highest class study Latin and others French; but, on examining the number of hours of occupation, we find four hours of study in Halle to one in Frankfort, and one hour more of school exercise: this is sufficient to show that the studies are pursued further, though the same in kind, a fact confirmed by my examination. The select class, when it existed at Hamburgh, was probably on a par with the oldest class at Halle. This uniformity I believe to be attributable to the common sense view taken by the German schoolmasters, who have given the impress to the present system, of adapting means to ends. They begin by laying down the purpose of a school, and then organize it accordingly, and I believe the boys at Frankfort to be quite as well fitted as those at Halle for the particular position which they are to occupy. When boys are to be pushed in their studies, so as to select the best to carry forward, then the time of study must be increased, as at Halle, or a select class must be established, as formerly at Hamburgh. It will be observed that in all these schools, the interest of the majority of the boys is made the regulating principle of the instruction.

## SCHOOL FOR SOLDIERS' CHILDREN AT STRUPPEN, NEAR DRESDEN.

This institution is under the enlightened superintendence of the Minister of War of Saxony, and under the immediate direction of a teacher,* who carries out the plan in a thorough way, both as regards manual labour and instruction. The pupils are the orphan boys of soldiers, and are received at an early age, and prepared for apprenticeship in civil life, or for the army. The system is a judicious mixture of instruction and work; in winter, at various trades and family occupations, and in summer, out of doors, in the garden and fields, as well as in-doors.

The institution is beautifully situated on the borders of the Saxon Switzerland, and its accommodations are well adapted to the purposes of the school.

The grade of instruction is that of an elementary school, the subjects being religious instruction, the German language, reading, arithmetic, the elements of geometry and natural philosophy, natural history, geography and history, writing, drawing, and singing. A portion of the classes were examined upon the principal subjects of study during my visit,† and specimens of their writing and drawing were submitted for inspection. The proficiency of the pupils was highly satisfactory.

The distribution of the time which is allotted to intellectual instruction, during the winter session, is given below. There are three classes, of which the highest is called "select," many pupils, however, are apprenticed to a trade, or enter the army as drummers or musicians, before reaching that grade.

The basis of their education is moral and religious, and the principal subjects in addition, are the mother tongue, and mathematics. The study of French by the select class is easily explained, from the peculiar political position of Saxony in reference to the rest of the German states.

* Mr. Braun.

† For the advantageous opportunity of visiting this school in his company, I am indebted to the Minister of War of Saxony, Lieut. General Von Zezschwitz.

**Table of the distribution of study at the School for Soldiers' Children at Struppen, near Dresden.**

| | WINTER TERM. | | | SUMMER TERM. | | |
|---|---|---|---|---|---|---|
| | Select Class. | First Class. | Second Class. | Select Class. | First Class. | Second Class. |
| Religious Instruction, | 5 | 6 | 6 | 6 | 6 | 6 |
| German Language, | 7 | 5 | 5 | 6 | 4 | 3 |
| Reading, | | 2 | 5 | 2 | 2 | 2 |
| Arithmetic, | 2 | 4 | 4 | 2 | 5 | 4 |
| Geometry, | 3 | 3 | 1 | 2 | 1 | |
| Natural Philosophy, | 1 | 1 | | 1 | 1 | |
| Natural History, | | 1 | | 1 | 1 | 1 |
| Geography and History, | 2 | 2 | | 2 | 2 | 2 |
| French, | 2 | | | | | |
| Writing, | 2 | 2 | 3 | 2 | 2 | 4 |
| Drawing, | 2 | 2 | | 2 | 2 | 2 |
| Singing, | 2 | 2 | 2 | 2 | 2 | 2 |
| | 28 | 30 | 26 | 28 | 28 | 26 |

tresses, spinning, writing for the war office and school, and miscellaneous house work. These occupations are all carried on regularly, and with a view to defray a portion of the expenses of the institution; the farm is worked for the same purpose, and there is a large dairy attached to it. The pupils are detailed for the different duties every month, and the regular hours of work are fixed by the school programme.

The order of the day in winter is as follows: the pupils rise at six o'clock, wash, dress, and make their beds. At seven, they attend prayers, and take their breakfast. From eight to twelve, there is instruction every week-day, with an intermission of a quarter of an hour at ten o'clock for recreation and luncheon. From twelve until two, they dine, have recreation and gymnastic exercises. From two until five, except in the cases of a few pupils, there is manual labour. From five to six, recreation and supper. From six to eight, study, singing lessons, and manual labour. At half past eight, prayers, and at nine the classes retire. In summer they rise at five, at half past six have prayers, and religious instruction until seven. Breakfast, and have recreation until eight. Are engaged in school or manual labour until twelve, with an intermission of a quarter of an hour, for relaxation, at ten. Have recreation, gymnastic exercises, and dine between twelve and two. Are engaged in school or manual labour until six, with an interval at five for recreation, during which, as in the morning, they receive a luncheon of bread. On Wednesday afternoon, they bathe in the Elbe, which is at an easy walk from the institution. About seven o'clock they sup, and then are free until the hour for prayers, towards nine o'clock. At nine they retire.

The arrangements of the school are military, the students wear a neat uniform, and those who are appointed to the command of the others at meals, in the dormitories, &c., are distinguished by particular badges. The discipline is mild. The fare exceedingly simple. In the morning, flour gruel, or milk and bread is given for breakfast; at noon, vegetables for dinner, except on one day of the week a milk gruel. They also receive a piece of bread in the intervals of recreation, in the

morning in winter, and both morning and afternoon in summer. The appearance of the children is healthy.

The number of pupils in the several classes, in 1837–8, was, in the select class twenty-six, in the first class forty-seven, and in the second class fifty-one. Total, one hundred and twenty-four. There is a principal and two assistant teachers, besides those for the handicrafts. The steward has charge of the farm, and gives the pupils instruction in agriculture.

### ST. JOHN'S ORPHAN-HOUSE AT PRAGUE.

This was the best orphan-house which I visited in the Austrian dominions, and I give it as containing some of the peculiar arrangements found in southern Germany.

*History, Building, and General Government.* The institution was founded in 1773, after the close of the seven years' war, by Count Runigh and others, for the maintenance and education of twenty-five orphans. The funds* have been increased by imperial grants, especially by those of Maria Theresa, and in consequence of a fever of violent type having broken out in the house, which was attributed to its contracted dimensions, that empress gave money for erecting a more spacious one. The present building contains not only all necessary accommodations, but is better adapted to its object than most of the orphan-houses which I have seen on the continent. It contains large halls for school-rooms and studies, for dormitories, and for a refectory, for examinations, and dancing lessons; also, a chapel with a gallery for the choir, a meeting-room for the trustees, and for the teachers, apartments for the teachers, &c.

The establishment is administered by seven trustees, appointed by the city of Prague, each of whom takes a separate department of it under his superintendence, the president having a general responsibility. They meet once a month at the house, for the transaction of business, inspect the institution every quarter, and receive a yearly report from the superintendent who has charge of all the departments. At present, one of the

* The income is now about twenty-one thousand dollars.

teachers has been chosen to this office, but continues also to give instruction.

There are, besides, three teachers, and one assistant, all of whom, as well as the superintendent, must be unmarried. The teachers hold monthly conferences, to discuss the progress and conduct of the pupils, a system which cannot be too warmly recommended, as producing concert of action in teachers of the same age, and improvement in younger ones. The economy of the house is in charge of a stewardess, who receives a fixed sum for the board of each pupil and teacher, and has, besides, a small salary from the institution, with certain perquisites.

*Admission, &c.* To be admitted, a child must be fatherless, the son of a citizen of Prague, or of one of the inferior town officers, in necessitous circumstances, and of six years of age. On application for admission, a certificate of the marriage of parents, of baptism, vaccination, and of having attended school, must be presented. There is no fixed age beyond which children are not received, but in general they are not admitted when over twelve years. Special exceptions to these rules, particularly as regards being the sons of burghers, have been made in certain cases, as, for example, in the orphans rendered so by the cholera.

When the claims of several children are considered equal, and the number of applications exceed the vacancies, they are obliged to draw for their places. If it is discovered, after the admission of a child, that any deception has been used, his friends are obliged to pay the expenses which have been incurred for his maintenance, &c. The admission takes place once a year, on St. John's day.

The pupils are retained until between thirteen and fourteen years of age, and are then apprenticed by the institution. At the close of the apprenticeship, they receive certain gratuities. As the custom of paying apprentice fees still exists in Austria, and the institution does not pay them, these children are obliged to serve for a longer term than others, as an equivalent. The master to whom they are bound is obliged, if he have fault to

find with his apprentice, to report it to the trustees, and in general cannot break the indenture without consulting them. No regular provision is made for the advancement of the more intelligent.

According to the rules of the house, children who are not orphans may be taken on the payment of a certain sum annually. This practice prevailed also formerly in some of the orphan-houses of Switzerland. It was intended partly to benefit the funds of the house, and partly to prevent that isolation of the orphans from society, which their own friendless condition would tend to produce. It has been found, however, not to work well. The objections which appeared here were twofold; the want of equality in the pupils who were on the charity, and of those who paid, was a source of discomfort to the former, when the pay pupils were numerous, and the guardians of bad children frequently took advantage of this way of educating them, and thus the mass of the school was corrupted by the introduction of a few immoral individuals. The number of these pupils is, in consequence, in the course of gradual reduction.

The whole number of boys in the house, in 1837, was fifty.

*Education.* The courses of study here are those of the Austrian model high-school, and consist of reading, writing, arithmetic, geography, and German and Bohemian grammar.

There are three classes, the lowest of which, the first, can be passed through in one year, and the other two in from two to three years.

As part of these children speak the Bohemian language only, and part the German, one of the main objects of instruction is to produce an interchange of the two. Accuracy is not attained by their intermixture in conversation, for they tend to corrupt each other's language by introducing a different idiom. The case is a very different one from that of a single individual placed in a community whose language he wishes to acquire, and the result shows conclusively that this difference is not to be overlooked in determining how a foreign language is to be taught. The necessity for this devotion to

language for its own sake, limits very much the intellectual development of the pupils.

Drawing is one of the courses in which very great pains are taken, and boys who have chosen their intended occupations, are directed to the kind of drawing judged most suitable for them. This selection is usually made about a year before leaving the house, so that some time is afforded for special drawing.

Music is not taught in any form, except to the few who constitute the choir of the chapel; neither is singing used in the school, which, to my apprehension, is an important omission.

The religious instruction of the school is given, at present, by a Roman Catholic clergyman, one of the trustees,* who also holds a service on Sundays and holidays, in the chapel. The instruction consists of catechetical exercises, Bible history, &c.

The teachers have not separate subjects precisely, nor yet are they confined to one class, to which they give instruction in several branches, but a kind of mixed system is in use, which is not very advantageous. The reason assigned for this is, that as each teacher must in turn superintend the study hours of all the classes, he must teach every class, in order to be able to keep them in due order. I was not satisfied with the result, and believe that either system, would be preferable, but that for an elementary school, like this, the class system, as far as it can be pursued, is the better. When a teacher is thoroughly trained, for example, as those who are sent out by the seminaries for teachers in northern Germany, he has more than the acquirement requisite for such a purpose.

Each teacher, in turn, is expected to superintend the pupils from rising until they are in bed, which is an excellent arrangement. In this he is assisted by certain boys, appointed to the charge of divisions of six, and who are selected for this purpose at the monthly conference of the teachers.

The rewards for conduct and progress are permissions to

* Pater Schneider has devoted the small amount now available as a salary for an ecclesiastic acting as instructor, to create, by its accumulation, a fund for a chaplain. His benefits to the institution cannot, however, be estimated by pecuniary measure.

visit friends on Sundays and holidays, the inscription of the pupil's name in a book of honour, presenting him favourably to the trustees, appointing him to the charge of others, and rendering him eligible to prizes at the examinations. These are only bestowed in cases where the conduct of a superintendent has been irreproachable for six months.

The punishments are varied in reference to the dispositions of individuals, but consist principally in abridging their pleasures. Corporal punishment is permitted, but is rarely resorted to.

There are no mechanic arts taught in the institution, nor do the pupils even assist the workmen, (tailor and shoemaker,) who are employed in the house.* They take but little part in the police of the establishment, merely waiting on each other at meals. Thus they lose much good moral and physical discipline. The gardens attached to the house are rented, and nothing but their play-ground reserved for the use of the boys. Their exercises consist of gymnastics and of walks in summer almost every day, and in winter, in walks on Thursday and Sunday, and dancing. Their health is in general good, no indisposition having occurred during the year before my visit, requiring the use of the sick-room. The clothing is ample, in the ordinary fashion of the boys of the town, and is changed from winter to summer. They have an out and in-door suit, which are supplied as the occasion requires.

The diet is quite generous, resembling that of the English schools, more than those of northern Germany. They have meat every day but Friday, and in the evening beer, with bread and butter. This fare shows how local such matters are, when we find in the south a northern diet and beverage. Their food is inspected by the superintendent, and by one of the trustees, who attends from time to time for that purpose. The teachers dine in the same hall with the boys, and, with the stewardess, superintend them at meals. The boys who wait at table receive a small gratuity for their services.

* There are five female servants, besides a porter for the house service.

The provision for cleanliness is, in general, good. There is a special wash-house for summer use, but in winter they are obliged to use the school-rooms for this and other duties of cleanliness, which, it is needless to say, is a very bad arrangement. The police of the dormitories is good, and the linen frequently changed; each boy has his own bed, but the bedsteads are of wood, except in the dormitories of the infirmary, where iron has been introduced, and its advantage recognised. A teacher sleeps in each dormitory, and a lamp is kept burning through the night.

The order of the day gives four hours of study, four of recitation, three devoted to household duties, meals, &c., four and a-half to play, exercise, and gymnastics, and eight and a-half to sleep, in the summer time. In the winter they rise half an hour later than in summer.

## CHAPTER III.

### NOTICES OF THE ORPHAN-HOUSES OF HOLLAND.

THERE are two classes of Orphan-houses in Holland, the first are conducted with a view to strict economy as the primary consideration, the second are foundation establishments, which before the French occupation were rich, and are, even now, usually sufficiently well off to look to higher considerations than those of mere economy, and to give those pupils who show great intelligence a better education than ordinary. Both classes of these schools have an interesting provision in the late age to which the pupils are superintended by the establishment, which replaces the home of the more fortunate child; and as the mode of carrying out the provision will appear equally by selecting an institution of either class, I shall take for description the Burgher Orphan-house of Amsterdam, which belongs to the second. In charge of the trustees of the orphan-houses at Utrecht and the Hague, are certain foundations for educating young men of talent, which I shall describe in connexion with a few remarks on those establishments.

It is a remarkable fact that one country borrows very little from another, in regard to the organization of such institu-

rather to discover, if possible, the good, and to place some account of their peculiarities before the Board, than to notice all indiscriminately. I have considered myself bound to notice defects in those described, where they seemed to bear upon our institution, and have treasured up mistakes of various kinds, as warnings to which we may profitably turn, but I have felt the task of presenting either in this Report an ungrateful one, and have avoided it where I could do so without a violation of duty.

## BURGHER ORPHAN-HOUSE OF AMSTERDAM.

This establishment was founded in 1520, by a charitable lady (Haasje Plaas), who, during her lifetime, had educated several orphan children, and at her decease left a house and funds to continue this benevolent practice. Subsequent legacies, by citizens of Amsterdam, have increased the funds of the institution, which at present supports itself, without drawing upon the resources either of the city or the state. There are six trustees, or governors, who are named by the magistrates of the city, and have absolute control over the institution and its funds. The Board meets once a week, at the house, and the president is charged, in the interim, with all their duties and powers. They report yearly to the burgomaster of the city.

The officers of the establishment are, a director, who attends to the out-door affairs, and to whom, when the trustees are not in session, the other officers of the house are responsible. A superintendent, and matron for the boys, and another for the girls, called in the language of the orphan-houses of Holland, the father and mother of the boys and of the girls. The superintendent of the boys has charge of them at all times, but especially when not in school; has the power to correct them at discretion, reporting the circumstances to the president on his daily visit. He makes a verbal report to the trustees at their weekly meetings. The other superintendent, the steward of the house, and the two matrons, have charge of the kitchen, of the clothing, and the domestic work. The arrangement by which the boys are intrusted out of school hours to an officer as high as a superintendent, is much better than that of turning them

over to servants, but the danger is, that the inspection comes at last to be really executed by the latter, since the superintendent has many other duties to attend to, and some of which call him away from the house.

The servants are, two nurses for the sick, one to take care of the children below eleven years of age, who are united in one building, and five women. A baker is attached to the establishment, receiving a salary, and a shoemaker does the work of the house on his own account.

The buildings are very commodious, and so arranged as to admit of an entire separation of the two sexes in the older department. The neatness of Holland is too proverbial to require remark on that score. There is a commodious chapel, and the boys' department has memorials of deceased pupils who have distinguished themselves in after-life, to serve as a stimulus to the present generation.

This institution was founded for the children of those who had the rights of citizenship in Amsterdam, and now that these rights are obsolete, descendants of those who formerly enjoyed them may claim the places, and children of parents by whom a certain amount has been paid may be admitted. Children who have lost a parent have a preference over others, and those who have lost both parents are considered to have the strongest claim.

There are three hundred and thirty-nine pupils in the charge of the institution; of these, one hundred and fourteen are boys below fourteen years of age. The instruction is on the footing of the elementary schools of Holland, and will be hereafter described in detail. It does not require special notice here. The teachers are selected as in the other schools of Holland, by competition, unless there is some one whose abilities are sufficiently known to the trustees not to make examination necessary. At fourteen, the boys are apprenticed, or begin the studies preparatory to sea service; they are frequently, in the latter case, drafted into the army at the age of eighteen, but always remain "children of the house" until they reach twenty years of age. Those who are apprenticed return to the house to lodge, and

to receive instruction in the evening, and those who go to sea, come back to the institution as to a home, at the end of every voyage. The superintendent of the boys is charged with frequent visits of inspection at the houses where they are apprenticed, during which he informs himself of their conduct and progress. This regulation I regard as much better contrived than that of the English schools, where the boys are to receive money at certain stated periods during their apprenticeship; so loose a connexion being attended with little advantage. In the former case, the superintendent really supplies the place of a father, and the house of a home for the orphan child, who, instead of being thrown upon the world at once, from his state of seclusion, is by degrees prepared to begin his solitary career. A theoretical objection, made sometimes to this course, is, that these boys, acquiring bad habits out of doors, return, and may communicate the infection to those within, but there are many reasons why this result should not take place. The boys are supposed to be well brought up, and to return daily to the family, still under superintendence, the object of which is to prevent the acquisition of those bad habits which they are assumed at once to have acquired. Besides, they do not mingle freely with the pupils of the house; on the contrary, their return is at stated intervals, for fixed purposes, needing no communication with the others. I took particular pains to inform myself in the different institutions where this practice prevails in the form in which I have described it, and was told, that it was not productive of any bad results. I remember especially the remark of the superintendent of the Orphan-house of the Reformed Church at Amsterdam, that if the arrangement gave much more trouble than it really did, he was so well satisfied of its good fruits, that he should regret to see it abandoned. The idea is a beautiful one, and I should be most happy to see it fairly tried in our institution, and under our circumstances. The location of the Girard College is an obstacle, but not one that I should consider insurmountable. The practice of over-work with apprentices of an early age, cannot be too strongly deprecated, and therefore I do not regard its existence as a bar to

the plan. If fairly tried and diligently watched, I should not apprehend much risk of a failure, provided the school departments are organized in a proper way. If it were found impossible, on account of the location of the College, a similar but less efficacious arrangement of superintendence, retaining the family connexion with the College, might be substituted for it. The first mentioned arrangement would, perhaps, limit the number of places for our apprentices to particular quarters of the city, though this could hardly occur, connected as the different parts of the city are by ready and cheap conveyances.

The religious instruction given in the Burgher Orphan-house is according to the doctrines of the reformed church of Holland, and dissenters go to their own ministers for instruction. There are two clergymen attached to the house, who hold catechetical and other exercises on Wednesday evening and on Sunday. There are, besides, morning and evening prayers, and the usual grace and thanks before and after meals. During meals, one of the pupils reads aloud from the Bible, a practice which, as conducted, is not only unserviceable, but savours, in my opinion, of irreverence. The punishments are, preventing from a visit to friends on Sunday, admonition, particular places at table, confinement with or without the usual food, and dismission. Corporal chastisement is not used. The location at table is a public punishment, and liable, on that account, to objection. There are no regular vacations, but in the holiday time of other schools the pupils are allowed to go to their friends, if request is made, and there is no objection on the part of the officers of the institution. Small pecuniary allowances are made to the pupils, at the discretion of the superintendent.

The physical education of the children in the orphan houses of Holland, on the average, is by no means attended to as in those of Germany. Gymnastics have never found favour in Holland, and amusements out of doors are less in accordance with the spirit of the children than in England, from causes connected, no doubt, originally with the peculiarities of the surface of their country. At the orphan colonies of Williamsoord, the boys are occupied in agriculture, and are certainly

more robust in consequence. The play-grounds of the city orphan-houses are in general very contracted, and do not admit of active sports taking place in them.

The following is the order of the day in winter. The elder boys rise at half past five, the younger at seven. Their breakfast of bread and butter is taken as soon as they are washed and dressed, those who live out of the house receiving theirs, which they may take away with them. From nine until half past eleven there is school for the boys of the house, and again from ten until four. They dine at one, sup at half past eight, and retire at ten. They are free to amuse themselves from after supper until bed time. The time devoted to instruction gives an idea of the limited course intended. There is no provision for the development of higher intellect in regular connexion with the institution.

## THE RENSWOUDE FOUNDATIONS.

These foundations are for the benefit of the orphan-houses of Utrecht and the Hague, and the funds are administered by their governors. They were left by a lady,* (Mrs. Van Renswoude,) for the purpose of training those pupils who distinguished themselves, to higher callings not requiring a complete university education. There are seven young men now on this foundation at Utrecht, and six at the Hague. Most of those selected have become highly respected in their professions, and several have risen to distinction. This is the more encouraging, that both the institutions from which the young men have been chosen have but few inmates; neither have now more than twenty, and though formerly the number was larger, they have always been small establishments. As these youths are, upon the average, about seven years upon the foundation, there is only about one choice every year. The pupils are selected for these places when between eleven and thirteen years of age, and then receive, in or out of the orphan-house, a higher grade of instruction than the other children. After spending about two years in general studies, the youth and his teacher fix upon the profession which seems to promise fairest, and the pupil begins the particular

* The "Vry Vrouw Van Renswoude."

studies most appropriate as a preparation. He resides in the house until it is necessary to seek in some public school, away from the city, the special branches necessary to his profession. When I visited the Hague school, three of the pupils on the Renswoude foundation were at Utrecht, attending to clinical medicine in the medical department of the university, one in the veterinary school of the same place, one studying mathematics at Leyden, and one, a pupil of the architectural school, had gained the approbation of government, and been sent to travel, at the public expense, for improvement in his art. Of ten pupils at Utrecht, who have been educated on this foundation, between 1834 and 1836, one is a surgeon, one a veterinary surgeon, two are painters, one is a surveyor, two are officers in the colonies, two pilots, and one is an organ-builder. The actual director of the hydraulic works of Holland was a Renswoude pupil, and before the existence of special schools for professions requiring considerable scientific attainments, these foundations were of great importance.

Before leaving the subject of the orphan-houses of Holland, I may state, that both at Utrecht and the Hague, and indeed also in part at Rotterdam, the pupils reside in the house after having been apprenticed. At the Hague they are apprenticed at between twelve and thirteen years of age, a stipulation being made with the master in regard to the hours of meals and of the cessation of work. Both here and at Utrecht the institution saves the gains of the apprentices, and pays them over to them on leaving the establishment, deducting only an allowance for pocket-money. At Rotterdam the institution retains five-sixths of the earnings, as an equivalent for the pupil's boarding and education. In this latter institution the children are apprenticed at the early age of ten, in the city, and those who go to sea, at twelve. With so many examples there can be no doubt that, under the circumstances of society in Holland, and of the institutions in that country, this plan is not only perfectly practicable, but is entirely approved after full experience. The habits of life there are much more like those in England and the United States than those in any other nation of the continent of Europe.

# PART II.

## EDUCATION IN GENERAL.

The first part of this Report is devoted to institutions for orphans and destitute children, as these might be supposed to bear more especially upon the organization of the Girard College. By examples selected from among the best establishments of the kind which I visited, the scope of these institutions has been shown to vary very considerably. In some we have seen provision made for preparing the more able students for the university; while others confined their training to the humbler walks of life. In others, again, we have found systematic arrangements for educating the pupils to grades depending upon their abilities, and for occupations in life selected according to their particular talents. The foundations which have the means to accomplish the last named result are, however, few in number. There are but two among those in Great Britain which have funds adequate to the purpose, and I am not acquainted with a single institution on the continent of Europe which is thus endowed. The two in Great Britain originated at a period when distinction was only to be attained through the learned professions, and a character was thus impressed upon them which has not since been changed. As a general rule, changes are less readily made in institutions of this class, than in the schools at large; so that when education is progressive, they are apt to be left behind. Nothing is clearer, however, than that Mr. Girard intended his institution to have the entire range of usefulness to which I have referred. Hence my investigations would have been incomplete, had they not included public schools in general, and my Report deficient, did it not present to the trustees some account of the institutions for general education in those countries of Europe where it is on the best footing. From these descriptions various hints may

be gathered, and measures suggested which cannot fail to be serviceable in the general organization or minute arrangement of the Girard College. If this account should further contribute to awaken attention in our schools to improvements which have been introduced abroad, I am sure that the trustees of the Girard College will feel gratified at this useful result of their measures.

The periods of education for which separate schools and different materials of instruction have been appropriately provided, are, the Infant, the Elementary or Primary, the Secondary, and the Superior. Schools for the one class sometimes include departments for the other; but, in general, the classification holds good. These four classes include the period up to the age at which education is completed, and the career of active life is commenced. The first period extends, generally, to six years of age; the second to ten or twelve years; the third to sixteen or eighteen; and the fourth to about twenty-one. These limits vary in different countries, under different social organizations, and with different individuals. Circumstances do not permit every one to pass through these several periods, nor are they all required for the different callings of life. Hence the education frequently terminates with the elementary period, which is then extended to the age of fourteen. The limits of secondary instruction are frequently changed in the same way. As in all artificial classifications, the limits of the classes are not precisely defined, though the division is, nevertheless, convenient for the arrangement and discussion of facts.

The lowest period of education is entirely anterior to that at which the pupil must enter the Girard College, according to the will of the founder; but, for reasons which will be stated in the introduction to it, I have concluded to embrace a notice of it in this report. It is of comparatively recent origin; is well developed in but one country in Europe; and hence occupies but a small space, which is altogether insignificant when compared with the principles embraced. The elementary and secondary periods are those which the limits of age fixed by the will of Mr. Girard would indicate as especially embraced in our course of education. A portion of that of superior instruction is, however, included within them, especially, according to the

educational arrangements common in the United States. This grade of education, as given in Europe, has two distinct objects. The first is, an introduction to the learned professions; the second, to the higher occupations in the arts, manufactures, and commerce. The first kind of instruction is given in the universities, and, in general, the universities of Great Britain forming the exception, the studies are of a professional character or tendency. For this, and other reasons, more fully developed in the remarks introductory to the chapter on superior education, I have chiefly confined myself to the schools of the second division of this grade.

In submitting, then, the view of the different periods of education, to which the remainder of this Report is principally devoted, I shall take them up in the succession already mentioned, preceding each by a statement of the order in which the different countries are treated, and with such remarks as may seem necessary, by way of introduction. As it would have been manifestly impossible to give an account of general education in all the countries I visited, within the limits appropriate to a report, I have selected in each period, those which appeared to me most important as examples, making such remarks as a view of the whole ground has suggested, and occasionally instituting direct comparisons. Following out the same principle, I have not undertaken to give an account of all the schools I visited; but have confined my Report to such as seemed best calculated to serve as types of different classes of institutions.

After brief notices of certain infant schools, elementary instruction is considered under two heads: the first, embracing the schools for general purposes, the second, those intended for special training, as for the education of a rural or industrial population, and of teachers for the elementary schools. Under the former head will be given a notice of the provisions for elementary instruction in Great Britain; a notice of the primary public instruction in France; a more particular description of the primary system of Holland, and of some schools which illustrate its application; a history and general sketch of the Prussian system, with detailed descriptions and notices of several prominent

schools; a notice of the system of primary instruction in Saxony, and of some of the schools, and an account of the method applied in the schools of Bayreuth, in Bavaria. The second division of primary instruction will comprehend descriptions of certain rural schools of Switzerland and Great Britain, an industrial primary school of France, and of some of the schools for primary teachers in Prussia, France, Holland, and Switzerland.

Passing to the head of secondary instruction, the Report will include descriptions and notices of schools in Great Britain, France, Prussia, and Saxony; each chapter being devoted to a separate country, and preceded by general introductory remarks. I have ventured to propose a subdivision of this head, which appears to me borne out by reason, and by the present state of facts in regard to education; the argument in reference to it will be found among the matter introductory to that division of the Report.

In some countries it would appear, from the nature of their institutions, to be assumed that there is but one way of forming character, and of training the faculties of the mind, and that by this way all, if they are to be educated, must pass, whatever their occupation in after life. In others, a diversity in the methods of training appears to be admitted. In the first, if it be not the lot of the individual to remain sufficiently long under education to master the entire scholastic course, he is expected at least to possess a fragment of it. In the second, fragmentary education is not admitted; but according to the time the individual may have to dispose of before entering active life, his course of education is directed; and as this cannot be accurately known in early life, the different paths diverge at first slowly, to render a passage from one to the other easy. Examples will be furnished of both these systems; and, if I mistake not, it will be seen that the second, while its theory commends itself to reason, is, at the same time, entirely practicable.

Under the division of Superior Instruction will be given descriptions of some special schools for the arts, manufactures, and commerce of France, Prussia, and Austria, and the higher agricultural school of Wirtemburgh, besides brief notices of a few other similar institutions.

## CHAPTER I.

### INFANT SCHOOLS.

As the pupils of the Girard College cannot be admitted before the age of six, they are past the infant period, and thus it may be supposed that I am departing from the rule which I have been obliged to lay down, in order to confine my Report within reasonable bounds. I am so fully impressed, however, with the importance of infant education, that I would not feel justified in passing over the period without a brief notice. The infant school system embraces so much of the philosophy of education, has been made so entirely an inductive branch, has been pondered over by so many minds of a superior order, that we cannot fail to derive advantage from a consideration of some of its principles and practical results. I am persuaded, that from the quarter of infant school instruction will one day come the reform of the English juvenile schools, and indeed this reform has already commenced, in the instance of the Juvenile Model School of Glasgow, and must extend widely, by the influence of its school for teachers.

The infant school system seems to have originated about the same time in Great Britain and Switzerland. In the former country, the first idea has been steadily improved upon, and there also it is now best carried out. Oberlin, the pastor of Steinthal (Ban de la Roche), collected the younger children of the poor of his parish into schools, where a female superintendent taught them spinning or knitting, and at intervals a little geography, from a Map of Steinthal and its Environs, or, by the help of pictures, a portion of Bible or natural history. About the same time, the children of the workmen in Mr. Owen's extensive manufacturing establishments, at New Lanark, were collected in schools, for the purpose of healthful recreation, and of due care and of a certain degree of intellectual instruction; and, subsequently, a similar establishment was commenced by Lord Brougham, in Westminster. Mr. Wilderspin must, how-

ever, be considered as the author of the infant school as it now exists, having, in his connexion with a proposed asylum in another part of London, first proposed the name, defined the age, and established the true principles of infant education.

It is mainly by his instrumentality that the present system is now diffused so extensively over Great Britain. Of this system the infant schools of Liverpool, which he was engaged to reform, offered me an example for inspection, though not of the most favourable kind. The model infant schools of Glasgow, Edinburgh, and London, are improvements on the system, presenting marked varieties: that in London being derived, however, from the Glasgow model.

The necessity for the existence of such schools must vary much in different countries, and hence their not being adopted in all is no argument against the general principle of infant education. The want of such schools is most felt in a dense and manufacturing population, least in a scattered and agricultural one. Independently of essentially different degrees of usefulness, under different circumstances, various prejudices have concurred to prevent the introduction of these schools into some countries. Certain governments, as those of Germany in general, have not lent their influence to them, and the clergy have, in some parts of Europe, been as warmly opposed to them as in others they have been their friends. The deformed models which have been transplanted from England to other countries, have tended in many cases to foster these prejudices. In some of these the intellectual development of the pupils has been attempted to be carried on to their manifest injury, physically and mentally. In others, a mere mechanical and lifeless routine has been followed. The infant schools which I saw at Paris, called "écoles d'asile," seem to me to educate upon wrong principles, having adopted the mechanical arrangements of the English infant schools, without having seized their spirit. I believe, that depriving them of the female superintendence which they formerly enjoyed, to make them a part of the government system, will react further very injuriously upon them.

In some of the cities of Holland, as Rotterdam, Amsterdam, and Zwolle, I saw good infant schools. In the capital of

Prussia they are beginning to take permanent root. In Austria Proper, their condition is rather languishing, but in the Italian provinces they are deemed most important means of ultimately effecting a great change in the character of the people. At Venice the establishment is fostered by the government and liked by the people. At Milan is an admirable institution, growing out of that founded at Cremona, by the Abbé d'Aposti, who first introduced these schools into Italy. In Lombardy and Venice the schools are under the control of a society.

The best infant schools which I visited were decidedly those of Glasgow, Edinburgh, and London. The system of the infant schools of Lombardy, as I saw it at Milan, comes next to the English model, but is comparatively too verbal and precise, dealing too little with realities.* I propose to give an account of the school at Glasgow, and merely a notice of those at Edinburgh and Gray's Inn Road, London, that I may not be supposed to dwell unnecessarily upon the subject.

*Model Infant School of the Glasgow Education Society.* This is the first of the schools of the Glasgow Education Society, and was founded in 1826. At my visit in 1836, it contained two hundred pupils, and the success of the society had been such as to induce the erection of new buildings to contain their infant, juvenile, normal, and other schools.†

The principles of the system of education in this school are, first, that the corporal, intellectual, and moral nature of its pupils, is to be improved. Second, that this is to be done by inculcating good principles, and training to the practice of them. Third, that to render such training effectual, the nature of the individual to be educated must be studied. In a day-school like

* I am indebted to the Marquis of Beccaria, one of the most strenuous friends of infant schools in Lombardy, for an account of the foundation and actual condition of the asylums of charity at Milan, in 1837, and the "Manual of Education and Administration of Infant Schools," by the Rev. Abbé d'Aposti, and a "Guide for the Founders and Directors of Infant Charity Schools, derived from the Practice in the Infant Schools of Cremona." Milan, 1836.

† I am particularly indebted, for the opportunities of freely visiting the schools of this society to the intelligent secretary, David Stow, Esq., author of Stow's System of Moral Training and of the Training System Adopted in the Model Schools of the Glasgow Education Society, &c.

this one, for example, corporal training would include the acquisition of proper habits of walking, sitting, standing, holding a book or slate, which, with manners, cleanliness, and a variety of others, will naturally suggest themselves. Intellectual training exercises the observing, perceiving, knowing, and reasoning faculties in a due degree, and here the art of the teacher is exercised mainly to judge how far he shall offer food to these. And so also of the moral and religious. It is frequently forgotten that the amelioration of the heart should precede that of the head, and moral and physical development are sacrificed to intellectual.* Not so in this school. Its peculiar characteristic may be considered, the great stress which it lays upon the daily use of the Bible, as a means of both moral and intellectual training, and the constant preference given to such exercises as may be connected with it over all others. I subjoin, in the Appendix, (No. IX.,) an example of a Bible lesson, to illustrate my meaning in asserting the connexion of various intellectual exercises with its lessons. In Wilderspin's system there were twenty-four Bible lessons, selected with a view to avoid any of the points on which sects of Christians differ; in this there is a lesson for each day in the year, giving the variety which the other system wants, but at the expense, in part, of simplicity.

The mechanical arrangements of the school are, first, the school-room, with its platforms as usual raised in steps, called the gallery, occupying a considerable part of the breadth of the room. Second, the lesson-posts and forms, where the little classes assemble under their monitors. Third, the detached room, where the master may retire with a class. Fourth, the play-ground, with its implements for exercise and amusement, its flowers and fruits. The school-room is but tolerably well ventilated, though, no doubt, this will be remedied in a house built expressly for the purposes of the school. It is hung round with

* The abuse of intellectual development is nowhere more admirably set forth than in the treatise by our countryman, A. Brigham, M. D., which has been republished in England, and is considered a standard work on the subject. Another of our countrymen, Mr. Abbott, stands high as authority in relation to infant culture.

boards, on which, in large letters, are inscribed words or religious sentiments, or on which are pictures of animals, &c. The raised platform, in steps of due height, and where both boys and girls* are seated, combines many advantages; it enables the teacher distinctly to see every pupil, and in turn the pupils to see the master and each other. Thus the power of imitation and sympathy, which play so great a part in education, are brought to bear under the most advantageous circumstances.

It is in this gallery that the most important exercises are given. The school opens with a short prayer, adapted to the comprehension of the children, order being first secured, if there are untrained pupils among them, by the aid of short physical exercises, raising and lowering the hands, rising and sitting down, and so on—such exercises never failing to produce this result. The children assembled here listen to the Bible lesson, the master occupying the front and centre of the little assemblage, with the Bible-stand to support his book, and by its side the whistle and bell, which are to convey signals, intended to secure prompt obedience. The lesson having been read, it is broken up into detached parts. The simple ones afford matter for direct questions, or the children are led to understand them by other preliminary questions, proceeding always from the known to the unknown. Replies from many are secured by the elliptical form of answer, in which the master leaves a simple but emphatic word, or part of a word, to be supplied. These are impressed upon all by a repetition of the ellipsis, the filling up of which all have now caught from those who first supplied it, and finally the whole answer is repeated. The Bible lesson is frequently one of civil or natural history and geography. Simplicity in question is the desideratum in this and other exercises. The master must descend to the level of the child, or he effects nothing. Singing a hymn, or physical exercises, or the inspection which ensures cleanliness,

* It is considered most important to infant training that both boys and girls should be united in a class under a master and mistress.

will vary this course, and above all, care must be taken that the attention of the children is kept up. If this fails, it is the master himself who fails. A principle which, if at all admitted, in more advanced education, does not occupy the place which it deserves.

The gallery serves also for the lessons on objects, or pictures of objects, where simple specimens from the animal, vegetable, and mineral kingdom, or of artificial productions, are made the subjects of actual examination or of description. Their properties, as far as may be, are observed by the children, led by the master, who directs their feeble perceptions. Words to express their ideas are furnished, when the want of these words is felt. With those somewhat advanced, the printed or written word is shown and imitated on the slate.

At an earlier period the letter which begins the word is selected from a series of large brass letters, cut out for this purpose, and is held before the pupil, and its name or its most common sound in combination given. A word beginning with the same letter is suggested by a pupil, another and another may be written on the board and copied, and all or any of them may be made the subject of instructive exercise.

At a later day the exercise of practical grammar, which will be explained when speaking of the juvenile school, is added. When places are spoken of, objects or pictures are shown in connexion with them. The children are in the gallery also during their arithmetic lessons, when the ball frame, so well known in all infant schools, is substituted for the Bible-stand, and the teacher gives his lessons by question and answer elliptically, by teaching a song in which the ellipsis of a word occurs in each line, or by the pupils singing simple songs already learned. These impress the easy operations of infant arithmetic powerfully upon the memory. The eye and ear are thus improving with the intellect, or the eye is exercised by the determination of angles by the jointed instrument, called a gonigraph, or by geometrical figures. The children are also in the gallery when hearing from the master a story, embodying circumstances of a moral tendency, or calculated to instruct or amuse, or to arouse curiosity. This is one of the exercises

they are most fond of, and which, if the master be apt, may be made as useful as any. The characters of the great and the good may be brought before them, their feelings interested, and thus early elevated, their patriotism excited, and evil tendencies repressed. It is the peculiar feature of this school to draw such stories often from the sacred volume, and in general, as an illustration of how attractive these may be rendered, it may be stated, that when left to choose the kind of story they will have, the children prefer a Bible history to any other. These various exercises of course are not continuous, nor do they even occur, sometimes, on the same day, and each of them is interrupted frequently for exercise, especially with untrained children.

The elliptical method* spoken of is to omit the last or some important word of a sentence, taking care that it is one easily supplied by the children, and which leaves the sentence plainly imperfect until it is given. Thus the children are engaged in a kind of conversation with the teacher, interesting to them because they are parties in it, and watching keenly the sentence, that they may seize the wanting word. In the ellipsis used in this school, the first sounds of a word are frequently supplied, requiring the little assembly to suggest the rest. I observed a great difference in the facility with which the children supplied the ellipsis of their master, by whom they were in the habit of being questioned, and that of others by whom they were addressed, but found that it arose, generally, from the too great rapidity of the uninitiated teachers, by which they did not allow the children time to think and to answer. This explanation supposes the ellipsis well contrived. The method of responses is frequently varied, by inducing some one or more of the children to ask questions of the class, two or more of each other, or one or more to volunteer to be questioned by the class. From the whole of this method, emulation as a principle is excluded, it is not needed, and indeed it is truly held that it would be pernicious.

* This method is stated to have been first announced by Dr. Borthwick Gilchrist, in his lectures on Oriental literature. It was adopted early by Mr. Wilderspin.

I was surprised, in witnessing some of these exercises, at the accuracy with which the children stated their questions, resulting entirely from the imitation of the perspicuous style of the master.* On the subject of imitative powers at this early age, many facts might be brought together; one struck me so much that I mention it here. I never visited an infant school in which the voice of the master or mistress was agreeable in singing, without finding melody among the children, and vice versa. It is recorded in this school that nearly all the children learn to sing agreeably.

The passage from the gallery to the lesson posts is performed while singing, and always in regular order. Sometimes an interval of out or in-door exercise separates the lessons. The monitors are chosen by the master, or offer themselves by the holding up of hands, when he calls for it, before the children leave the gallery. Each monitor has a class of half a dozen or more, to whom he explains the picture suspended upon their particular reading-post, and the letters or words beneath it. The classes change posts, after a reasonable interval, and the monitor has a new set to drill. Such teaching is not to be expected to be efficient, but it nevertheless answers a good purpose at this age. The lesson-posts are arranged so that the board on which the lesson is pasted may be readily changed, and so that its height may be varied to suit the size of the pupils receiving the lesson. The boards are covered with coloured prints of animals, representations of trades, of costumes, &c. No formal attempt is made to teach reading, but it is found without it that the children insensibly learn to read. A useful exercise for the more advanced children, requiring study at home, and which also frequently excites the attention of parents, is to give them cards, with questions relating to natural history &c., to be answered on a subsequent day. The answers are sometimes required from particular parts of the Bible.

Behind the gallery are the places for hanging the caps and cloaks of the children, which they are trained to put off and

* Mr. David Caughy, whose wife is his assistant in the school.

to take again in an orderly manner. The detached room enables a master to hear any class which he may wish, apart from the others, the mistress meanwhile superintending the school, or to teach the monitors, or furnishes a place for the noon luncheon, which many of the children bring with them.

The play-ground in the system of this school is considered the "uncovered school-room," the true place for moral training, where the principles inculcated within are to be carried into practice, and where the tempers and dispositions show themselves more fully, in unrestrained intercourse, than in the school. There is in it a circular swing* for exercise, wooden prisms in the proportions of bricks, for amusement, and flowers and fruits, to train them to respect the goods of others and of the public.

The master is constantly with, or overlooking them, sometimes mixing in their sports, or showing them new or amusing games, and always attentive to their development of character, but unless in extraordinary cases, his interference is not necessary. The benevolence of some children prevents or remedies the accidents incident to their plays, and justice insures a tolerably equal share of the sports. When a fault is committed, it is noticed after the assembling of the children in the gallery, where the public opinion of his equals in age is brought to bear upon the offender by a judicious series of questions from the master, without, however, making the punishment a public one, by directly designating the individual who is under censure. Punishments in or out of school are adapted to the tender age of the child, and addressed to his peculiar temperament. Corporal punishment, even of the mildest kind, is seldom found necessary.

* This consists of a mast or post, about eighteen feet high, on the top of which is a plate of iron, movable upon a pin of the same material, fastened into the post. Four ropes hang from this plate, and each has knots or sticks across it, at heights suitable to the size of the children, who are to grasp them. These ropes being seized, the children run round, keeping them fully stretched. The motion soon produces a sufficient centrifugal force to take them off their feet. If a child lets go of the rope, he is carried beyond the circle where the others would touch him in their course round.

When the play-ground cannot be used, the want is supplied, as far as possible, by games within doors, which are, however, very imperfect substitutes for those in the open air.

### SCHOOL OF THE EDINBURGH INFANT SCHOOL SOCIETY.

This establishment was founded by the Edinburgh Infant School Society, in 1829, subsequently to that of Glasgow, and upon principles of education very similar to those of the Glasgow Model School. The necessity of combining moral with intellectual training is especially insisted upon here as in the other, and the same importance is attached to physical training. The same use is made of the play-ground as in the Glasgow school, and with similar efficacy as to the bodily and moral improvement of the children. The system of Wilderspin was at the outset the guide of both.

The general principles which regulate the establishment of a school, however closely it may be the intention of the teacher to follow them, will always receive a modifying impress from his own peculiar views and qualities. Thus, while intellectual education is declared to be a secondary object here, the amount of actual attainment by the pupil is much greater than at Glasgow, from the circumstance that the turn of the master's mind is constantly towards inventing ways of simplifying the mode of instruction. Some part of the time occupied in the other school in religious training is spent in this in intellectual, and the children leave it, having advanced so far as to read, spell, and parse, and having a knowledge of the elements of geography, history, and arithmetic, with the properties of various objects, &c. The season at which I visited the school, the winter, was unfavourable to a judgment of the physical education, but the appearance of the children indicated that it was good. The moral results appear from published documents highly satisfactory, and the intellectual struck me as perhaps even too high; a correct decision, however, on this important question would require more time for observation than I had to bestow, especially from the fact which I have before remarked, that the talent of the

master* particularly showed itself in intellectual training. His multiplied means of addressing instruction through the eye, the products in great part of his own ingenuity in devising and skill in executing, were very remarkable; added to which he had thrown many subjects into the form of games, rendering them attractive to the children. Among the former were the progressive maps of travel for infant geography, the historical maps, with picture illustrations, the illustrated grammar exercises, the exercises in measures and weights, and in Arabic and Roman numerals, all illustrated by ingenious and perspicuous diagrams. I was also particularly pleased with a series of moral training lessons, which, beginning with a statement of what the school should be, provides rules for attaining this condition, and reasons for the rules; precepts in regard to the virtues, and remarks upon faults to be avoided.

This school has had as many as one hundred and sixty pupils, and the general attendance averages about one hundred and twenty. The mixed system of lessons in the gallery, and of monitors for the classes, is used in it as at Glasgow, and the other general arrangements are also much the same in the two schools.

### SCHOOL OF THE HOME AND COLONIAL INFANT SCHOOL SOCIETY OF LONDON.

"The Home and Colonial Infant School Society" was instituted in 1836, to promote the cause of infant education, by pointing out to the public the indispensable qualifications of teachers, by providing an establishment where teachers might be received and their acquirements put to the test and improved, and by publishing lectures, lessons, manuals, and other appropriate works.† To carry out the second part of this undertaking, the society found a model infant school absolutely necessary. The teachers

* Mr. Milne, who has his wife for his assistant in the school.

† The society has been fortunate in securing the assistance of some of the most distinguished friends of education in their enterprise, as Doctor and Miss Mayo, of London, Dr. Bryce, of Belfast, &c. Dr. Mayo is well known as the principal of a Pestalozzian school at Cheam, in Surrey.

were instructed in the principles of their art, but as the schools which they visited did not exemplify these principles, they were not trained in the practice of them, and hence, in many cases, their career did not justify the expectations of the society.

The model infant school established by this society is upon the enlightened plan which I have already described, the teacher having been trained in the Normal school at Glasgow; but it partakes, in a considerable degree, of the peculiarities of the Edinburgh school. Thus, in religious instruction, its aim is to avoid such matter as shall be objectionable to any denomination of Christians, and it carries intellectual education further than its Glasgow model. It is true, indeed, that in the recent official work* on infant education issued by the society, a part of the instruction actually given, namely, teaching to read, is not spoken of with special approbation, but rather as a yielding to the supposed prejudices of parents. The method itself draws strong encomiums from the managers of the society, and will be found described in the Appendix to this Report, (No. X.)† I was particularly pleased with the lessons given in sensible objects, and the incidental exercises of orthography to which they led. The pictures used are a decided improvement on those commonly employed, but a difficulty in their use has been discovered, from the very precise ideas which the child attaches to them, by which truth appears to be violated, when the same subject is illustrated differently in two pictures. It has been found possible to overcome this difficulty, in a degree, by impressing upon the child that these pictures are merely general illustrations, and not precise representations of events which the artist has witnessed.

The small play-ground here is better furnished with the means of infant gymnastic exercises than that of Glasgow, but is by no means commodious.

* Practical Remarks on Infant Education, by the Rev. Dr. Mayo and Miss Mayo. It is interesting to see, in this work, how admirably the natural method of instruction by Pestalozzi adapts itself to the infant school.

† It is entitled "Reading Disentangled," and is divided into twenty-seven lessons.

The teachers who are in training receive theoretical lessons, attend the practice of the school, are employed to teach small classes in separate rooms, under superintendence, and, finally, practice with the entire class. The course for teachers is, as yet, however, of too limited a duration, being only three months; but it is proposed to extend it when further means of reducing the cost of the maintenance of the pupil-teachers shall be afforded.

## CHAPTER II.

### ELEMENTARY OR PRIMARY EDUCATION.

#### INTRODUCTORY REMARKS.

Elementary education may be considered in two points of view, both of great importance: as the sole education of the mass of the community, or as leading to higher instruction. In the former view, it requires to be complete, as a whole; in the latter, it is essentially preparatory. In reference to each, its character is materially different. In our country at large, we have been necessarily more occupied with creating common schools, than with elevating the standard of the instruction given in them. In the meantime, education has been advancing; and, unless we would be untrue to ourselves and to our political institutions, we must gather experience wherever it is to be found, and apply those practical results which are best adapted to our circumstances. In like manner, on the more limited field of the Girard College, we must raise our system upon the basis of the successful experiments of others, unless we would encounter the vexations incident to the acquisition of experience by our own failures.

The importance of primary instruction in both these references, has induced me to extend this notice of its present condition to a considerable number of countries, and to multiply the examples illustrative of the systems, where the schools are in a flourishing condition.

It happens, and I believe unfortunately for us, that the elementary schools of Great Britain are, in general, behind those of other countries of Europe with which we are less connected. Desultory, and sometimes conflicting, efforts at improvement have not made an impression proportioned to the wants of the people of that country, and have left them behind others, who have much less need of cultivated intelligence to

enable them to fufil the duties of citizens. Through the medium of schools for teachers, the importance of which is now recognised, the same rapid reforms may, however, be worked there, as have been effected in some countries on the continent. It will be found that, at present, I have been obliged to draw my examples of the schools for popular instruction in Great Britain from Scotland exclusively, but descriptions of departments for primary instruction will be found in some of the notices of secondary schools of other parts of the country.

Although the primary schools of France are not yet, in general, upon a level with those of Holland and Prussia, I have appended a brief notice of the system and progress of public instruction there. The view affords great encouragement, by showing how much may be realized by judicious laws, and in a well-arranged system of inspection. A rapid improvement in the schools in general will, no doubt, result from the operation of the normal schools.

The system of primary instruction in Holland is particularly interesting to an American, from its organization in an ascending series; beginning with the local school authorities, and terminating, after progressive degrees of representation, as it were, in the highest authority; instead of emanating, as in the centralized systems, from that authority. A fair trial has been given to a system of inspection which is almost entirely applicable to our country, and which has succeeded with them. They have tried an important experiment, in communicating religious without sectarian instruction; another, which has resulted in demonstrating the necessity of special schools for teachers; and another, entirely unfavourable to the system of mutual instruction. I have enlarged, therefore, upon the general account of their system of public instruction, and have given rather a general notice of the schools, than of any one in particular. I have, however, made one of the schools for the poor, which seemed to me superior even to those of the same class in Prussia, the subject of special description and remark.

The account in reference to Holland is followed by that of the Prussian system and schools. This is the most perfect of

the centralized systems, allowing considerable latitude in the arrangement of the individual schools, while all are subject to the influence of the central authority. It has not, as is commonly supposed, recently sprung into existence, but has been the work of time, has been altered and amended, and is still in progress. Its present condition is the result of experience, and thus it commends itself to enlightened imitation, by which I mean that which, laying aside what is inapplicable to the political or social institutions of the country adopting it, would employ the large amount of useful material which it contains. The schools contain much more that is applicable to our country than the system in general, and hence I have enlarged upon them, particularly upon the higher class of primary schools, which seem to me in better condition than those of any other of the larger European states. It is in what may be called the incidental parts of instruction, and which do not appear upon paper; in the spirit of the teacher, and sometimes in that of the books; that the peculiarities of national organization in these schools are chiefly to be found.

The chapter on Prussia is followed by a notice of the schools of Saxony, and by an account of the excellent higher primary school, or Burgher School of Leipsic. The Model Primary School of Frankfort on Maine is described in the same chapter. The necessity of confining myself within limits has alone prevented me from giving an account of some of the schools of Weimar, of Nassau, and of Switzerland.

The Bavarian schools, according to Graser's method, follow in the chapter succeeding Saxony. I have omitted mention of the others, as throwing no new light upon the subject. This is true also of the Austrian primary schools. These latter are chiefly characterized by a spirit of system, which exactly regulates the method and amount of what is to be taught, and when it shall be taught, throughout this vast empire. The mode of educating teachers tends to give them rather the routine than the spirit of their profession. My remarks apply to Austria Proper, and have no reference to the number, but to the general character of the schools. I was most favourably impressed with the earnest efforts making in the Italian provinces of Austria to

spread primary instruction, an important measure where the schools have been so much neglected.

In the notices introductory to the description of schools in the different countries, I have endeavoured to give an outline of the organization of public instruction, of the regulations upon which it is founded, and of the mode of supplying teachers. The varieties in the schools are represented by some of the best which I visited, and of these I have given a more or less minute account, as the subject seemed to require, endeavouring, as in the former part of the Report, rather to notice peculiarities and differences than to repeat the same details in every case. In general, however, as before, the history and purpose of the school is first given, then its organization and government, then the admission and dismission of pupils, then the moral, intellectual, and physical education which it provides are discussed, and comparisons drawn between it and other similar institutions. These are interspersed with such remarks as reflection upon the subject may have suggested.

Besides the class of general primary schools, others which may be considered as of a special character have been planned, by which, while pursuing the studies of the elementary period, the individual is, at the same time, trained for his calling in after life. Such are the rural schools of Switzerland, which have also been transplanted to England and Ireland, and the manufacturing and industrial schools of France. I have placed this class in a separate chapter, and described, in turn, two of the rural schools of Switzerland, one of Ireland, one of a mixed rural and industrial character in England, and one industrial school of France.

I have preferred, for the sake of a better comparison of the seminaries for teachers, sometimes called normal schools, to place those of different countries together, and they will accordingly be found in a separate chapter, after those containing an account of the primary schools. The seminaries of Prussia are placed first, then those of France, and lastly, a notice is given of one of the normal schools of Holland and of Switzerland.

These notices will terminate the division of my Report relating to primary schools.

## ELEMENTARY SCHOOLS OF GREAT BRITAIN.

Until lately, the only part of Great Britain which had the advantages of a system of public elementary instruction, was Scotland. In England the establishment of schools has been left to private enterprise or charity, or religious zeal and liberality, assisted, but not efficiently, by appropriations from Parliament. The schools for the instruction of the people during week days are still miserably deficient, both in number and kind, and as yet there appears no prospect of concert of effort to bring about a better state of general education. The exertions which have produced here and there endowed schools, factory schools, schools of industry, schools for paupers or for adults, though of course highly commendable, can lead to no general system of national education; and the same may be remarked of Sunday schools, however good and useful in their particular way. In no country in Europe, I believe, is so much benevolent effort to be met with as in Great Britain, and could it be directed in concert, it is capable of the highest results. The two associations which have done most for general elementary instruction are the "British and Foreign School Society," established in 1805, to aid in extending the system proposed by Joseph Lancaster, and the "National Society for Promoting the Education of the Poor on the Principles of the Established Church, throughout England and Wales," founded in 1811, to disseminate the system of Dr. Bell. With the different principles of action of these societies I have nothing to do in this place. I visited schools in connexion with both, or following their methods, and as might have been expected, found their model schools established in London, in general, the best specimens of their views.

The model school of the first named society in the Borough-road, is under the charge of an enlightened teacher,* who has

* Mr. S. C ossley.

done much to improve the Lancastrian method, by rendering it less mechanical, infusing a more intellectual character into its exercises, and adding new branches of instruction.* The success is limited, however, by the capacity of the method itself, and I cannot hold up even this improved form of it as a model for imitation. The results produced at a public examination pleased me very much, but these were, in fact, in great part, consequences of the master's instruction, and of the very superior intelligence of a few pupils. To judge of the effect upon the whole school, it should be visited in working-hours, and especially when the classes are under their monitors, who carry on the principal business of teaching. The humble character of the intellectual and moral teaching belonging to the system of mutual instruction is then fully visible. While I estimate highly the good which this society has done by establishing schools when there were none, I do not find it necessary to describe the particulars of their method of instruction. The model school of the National Society did not come up to the example of the modified Bell system, already presented in the Liverpool Blue-coat School. The system of mutual instruction belongs to a very unadvanced grade of public education, and in which the means of procuring or compensating masters are limited. When large numbers of children must be collected in one school, or be destitute of instruction on account of limited means, then the method is the only one feasible, and ought to be encouraged.

The society for the promotion of the education of the poor in Ireland, established in 1811, has been of essential service in that country. At first, they acted as a private body, but subsequently received a grant of money from the British Parliament. They have a model school in Dublin, and during the continuance of the government grant, educated a considerable number of teachers, published many cheap school-books, and works for lending-libraries. With them also originated, in its application to Ireland, the admirable system of regular school inspectors. This grant

* Linear drawing and music are both cultivated.

was withdrawn in 1831, which has reduced very essentially the scale of their operations.

The Board of National Education for Ireland was appointed in 1831, and is intended as the head of a government system of elementary instruction for the population of the whole island. This Board has not only greatly increased the number of elementary schools, and supplied new text-books, but has established, on a considerable scale, a seminary where the future teacher is first instructed in the elementary branches in which he may be deficient, and then is furnished with the principles of education, and an opportunity to reduce them to practice, under superintendence, in model schools. At the time of my visit to Dublin, these schools were in the course of organization in a new building, erected specially for them. The appointment of school-inspectors, a practice followed up by this Board, is no doubt one of its most important measures, affording, as it does, in connexion with the control of pecuniary supplies, the means of continual improvement in the individual schools.

The system of parochial schools in Scotland was established a century and a-half ago, by an act of the Scottish Parliament. This act provided for the existence of a school in each parish, for the manner of election of the schoolmaster, and for his compensation, no mention being made of the branches required to be taught. The masters have been, in general, selected either from among candidates for the ecclesiastical profession, or such persons as could not pursue the requisite studies far enough to reach the ministry, and from persons of the humble classes who were physically incompetent for trades, and endeavoured to secure the patronage and instruction necessary to obtain places as teachers.

The General Assembly of the Church of Scotland has the right of inspecting these schools, but not that of displacing their teachers, and hence the system is wanting in the means of improvement. It has, in fact, not kept pace with the general progress of the country, the schools being deficient both in number and quality. To remedy this, efforts have been made by the General Assembly and by benevolent individuals, by

the erection of new schools, and of model schools, by endeavouring to improve the condition of the teachers, and by furnishing those who aspire to this profession the means of proper training in their art. The sessional school* of Edinburgh has opened its doors to persons wishing to procure practical knowledge in teaching, and more lately the Normal Seminary of Glasgow for training Teachers has been established and taken under the patronage of the Education Committee of the General Assembly.†

The instruction in the parochial schools is generally confined to reading, writing, and cyphering. Occasionally, in the higher schools, a little Latin is taught. The Bible and Catechism frequently constitute the text-books for reading. In some schools there are spelling-books, with selections of stories for children. The former collection of reading-lessons was absurd in the extreme as a book for children, consisting of extracts for the most part above their comprehension; it has been, however, more recently replaced by a judicious selection. Most of the children who go to these schools are between the ages of six and twelve.

Besides the parochial schools, there are, especially in the large towns, endowed schools, the state of instruction in which, at any given time, depends much upon the trustees into whose hands the endowment has fallen. The subscription and private schools have, in general, not been in advance of the others, and in many of the Highland schools, neither writing nor arithmetic are taught.

It seems to be generally conceded that a great change is necessary in the character of popular instruction, but the nature

* Schools under the charge of the ministers and elders, or church-session of a parish, are so called.

† The petition of the Education Committee of the General Assembly of the Scottish Church to Parliament for aid, states, that in the Highlands alone there were, in 1833, eighty-three thousand three hundred and ninety-seven persons above six years of age who could neither read nor write, and twenty-eight thousand between six and twenty years of age in this predicament. One-sixth of the population was thus without instruction, and means were wanting to provide them with schools.

of the change is the subject of much keen controversy, in regard to which I should be going out of my way to speak.

The public school which has produced the most important results in improving the state of elementary instruction in Scotland, is the Sessional School of Edinburgh. The Juvenile Model School at Glasgow* has been founded later, but its effects are already felt. The elementary departments of the Madras College, at St. Andrews, have also contributed to the same object. After giving a description of these establishments, I shall conclude this section with a notice of the Circus Place School at Edinburgh, intended to prepare pupils for the public or private classical schools, by the improved methods which the sessional school has made so well known in Scotland. The elementary teaching in the lower classes of the High School of Glasgow and of the Hill-street Institution of Edinburgh, ranks with the best which I saw, but I shall refer to it in speaking of the respective schools which belong to the secondary grade of instruction.

### JUVENILE TRAINING-SCHOOL OF THE GLASGOW EDUCATION SOCIETY.

This is the only attempt which I witnessed to carry the "training system" of the infant-school into the juvenile day-schools of Great Britain. The endeavour is made, under this system, not only to inculcate good principles, but also to form good habits—not only to teach, but to train. A child entering from the infant school is prepared for the instruction and discipline of this; his education goes on in the same way and with the same spirit here as in the former school. Other children, entering at six, may have positively bad habits to eradicate. Experience has proved, however, that they may be trained with the others, only at a greater cost of time and labour. In this system, as in the corresponding infant school system, the play-

* In describing these schools, I have given that of Glasgow the first place, because it is quite distinct from the others in its character, while they have general resemblances to each other.

ground is the "uncovered school," and the moral training goes on in it; hence the pupils must necessarily be under the superintendence of the master, who notices their aberrations without interfering, unless when absolutely necessary, and makes a school-room lesson of their conduct. The effective character of this training is proved by the fact that one hundred and eighty children of the lower classes of Glasgow were in the daily habit, for five months, of frequenting the play-ground of the school, without any injury to the borders planted with flowers, shrubs, and fruits.

The designs of the Glasgow Educational Society include not only this school, but the infant school which has been described, and a normal seminary for the education of teachers. To aid in carrying out especially the latter part of the design, the rector of the normal seminary made a tour on the continent, visiting the best seminaries of Prussia, and even attending a part of their courses. His return occurred just before my second visit to Glasgow, and I had not, therefore, the benefit of seeing the fruits of his experience in the practice of the schools.*

At present, the courses of the normal school are so restricted in point of time, from the limited means of the teachers who resort to it for instruction, that little more than a general idea of the system can be obtained by the pupils, and vigorous efforts were making to induce the government of Great Britain, and the wealthy of Glasgow, to contribute to the support of young men while in the school, and thus to enable them to remain sufficiently long to become imbued with the spirit and practice of the methods of teaching.

The course of instruction in the juvenile training-school is to be considered still in a great degree experimental, but the results already obtained are of the most encouraging character.

*Intellectual and Moral Education.* It is understood from my preface, that this school is intended to give an elementary educa-

* The Rev. John M'Crie, a young teacher of the highest promise, whose untimely death has prevented the career of usefulness for which he had prepared himself.

tion to children between six and twelve or fourteen years of age. Contrived as an improvement on the Scottish parochial system, it supposes the means of procuring teachers to be small. Hence it places a large number, even as many as a hundred, under one teacher, adapts its arrangements to render his services as efficient as possible, and employs the more advanced pupils as monitors. Emanating from the Scottish Church, it inculcates its observances and doctrines, adopting a mode of imparting Christian truths which renders them eminently attractive. It seeks (and here I consider the system overstrained) to attach to the knowledge of the Bible all other branches, and thus to make it the medium by which a child shall not only learn morals, but, in connexion with which he shall receive lessons in history, natural history and philosophy, geography, manners and customs, and grammar. The system discards, in a great degree, all use of books, and substitutes the lively oral method employed in the German schools. It requires the master to be thoroughly acquainted with the subjects he teaches, in order to be able to communicate them in the manner exactly suited to the different capacities of the pupils, which he is expected to study. The children are assembled here, as in the infant school, in the gallery, and, in general, the methods of communicating knowledge, or of drawing from them their ideas, do not differ in the two schools. There is a little more form here, perhaps, but the methods are substantially the same. The exercises of the gallery terminated, the classes take their places upon the floor under the charge of monitors, or range themselves at the desks for writing. The master examines, in a room apart, one class at a time, and, after this lesson, gives an interval for the play-ground. From the play-ground the classes return to the charge of the monitors. When all have passed thus before the master, an exercise in the gallery closes the instruction for the time.

The alternation is shown by the following order of the day:

At half past nine o'clock the school-room and play-ground are open to the pupils, and the school commences at ten.

Ten to eleven, Bible training and religious teaching in the gallery.

Ten minutes play.

Until a quarter past twelve, reading under monitors, the master examining each class in turn.

Until one, may leave the premises or play.

One to two, intellectual training in the gallery.

Ten minutes interval for play.

Until half-past three, classes under the monitors.

Play until four, when the ground is closed.

The efficacy of such a school depends almost entirely upon the character of the master, and during my visit, this truth was fully impressed, by seeing it under the charge of the head master, and again under that of an assistant, and by comparing it with the infant school. There is no teaching so difcult to many instructors as that by the natural method. For, brought up in stiff and artificial habits, they cannot break themselves into those required, and descend to the level of their pupils. I saw, however, quite enough to convince me that this was a great improvement upon the old system of the Scottish schools. The questioning, conversation between the teacher and pupils, singing, and other exercises of the gallery, go on with more spirit when considerable numbers are present than when few are there, and hence are particularly valuable in schools which require instruction to be given by one teacher to many pupils. The arrangement of the gallery admits of every child being distinctly seen, and of his seeing the master, and hence is much better than the usual one of benches. When the school contains pupils of very different states of progress, it loses its efficacy in a great degree, and I consider it still doubtful whether it will answer thus to unite all classes composing a large school. As this school had been only four years in existence when I saw it, the difficulty did not show itself very prominently. A provision is made for this case, in the excellent manual drawn up by Mr. Stow, in which it is recommended to divide the pupils into one or more classes, so that while a part are in the gallery, another may be on the floor with monitors,

and another in the play-ground. The monitorial system worked no better here than elsewhere. Indeed, if the master had no assistant, and should retire to an adjoining room with a class, the mechanism would go on very irregularly, as I had an opportunity of seeing actually proved.

Advantage is taken in the arrangement of the school-room to keep such printed moral precepts and attractive representations before the eyes of the children as it may be desired to impress on their memory, care being taken to change the objects from time to time, that too great familiarity may not blunt the sense of curiosity or interest. Order and neatness are inculcated by the proper arrangement of every article of school-furniture, and by that of their own hats and cloaks.

I propose now to state the subjects of instruction, to take up each and to notice it in a general way, referring to the implements of teaching as the several branches are under examination.

English reading. Roots. Construction and meaning of English words. Practical grammar. Mental arithmetic. Practical geography. Sacred geography. Objects. Natural history, assisted by pictures. Outlines of general science. Outlines of geometry. Outlines of civil history. Writing. Arithmetic on slates, by rule. Grammar by rule. Geography, with the use of globes. Daily Bible training. Vocal music, chiefly sacred.

If the pupils have come from the Infant School, they are in part prepared to read without the necessity of referring to first elements. In the alphabet class there are pictorial representations to impress the words upon the memory. An orthographical desk is described, in Mr. Stow's book, as an auxiliary to this exercise, but I did not see it in the school. It contains compartments or small boxes, each of which has within it several sets of a letter of the alphabet, printed on paper and pasted on small square plates of wood. Other boxes contain pictures. The child selects a picture, and spells the name of the object, forming the word with the letters taken from his set of boxes. Another method of learning the alphabet and spelling, recom-

mended by Mr. Stow, is to select a letter on a printed page, calling it by name, and requiring the child, as an exercise, to point out every recurrence of the same letter on the page. Among the various methods of teaching to read which have been tried, I regret not to have seen in use, so as to form an opinion of its success, Jacotot's method of teaching, by beginning with words instead of letters, especially as it has been supposed particularly applicable to our language, owing to the various sounds belonging to the same letter. It is the fact, that the children in the Infant School at Glasgow actually recognise the words, and can name them at sight before they can spell them.

For the introduction of the admirable exercise on the roots, construction and meaning of English words, the Scottish schools are indebted to Mr. Wood, of Edinburgh, and I shall speak of it particularly in describing the Sessional School.

By practical grammar is meant such as the pupil can obtain by his own induction or by teaching, aided by his own comparisons. It is the true elementary grammar, and the name practical does not seem to me well chosen. I can give a clearer idea of it by an example. Several things are named over to a class—hat, desk, chair, &c. These are the names of things. They are called nouns. Or, to employ the elliptical method of the school, these are the names of ———, leaving to the pupil to reply ——— things. If it is perceived that all have not caught the answer, the class are made to repeat it. They are called nouns, is stated by the master. A noun is the name of a ——— thing, the ellipsis being supplied by the class. Further. You wish me to give you a stick of what kind? A short, a long, a smooth, &c., will be answered. Short, long, &c., are qualities of the stick. They are called adjectives. Short is an ——— adjective. Stick is a ——— noun. An adjective is the quality of a ——— noun. Combining such exercises with pictorial representations of the parts of speech, and varying them until they suit the mind of every pupil, an indelible impression is made. A foundation is laid for grammar by rules taught in the higher classes, which should, however, be so accompanied by exercises as to be quite as practical as this.

The practical geography consists also of elements, but taught in a much less natural way than in the German schools already spoken of. Fictitious travelling should follow a knowledge of home; putting a map into a boy's hand, without explanation, is not likely to lead to much inquiry. The methods of this school, however, it should be considered, are in a great degree experimental.

In speaking of the courses in the German eleemosynary institutions, I have already said so much of mental arithmetic, that it is not necessary to dwell here again upon it. It has been permanently adopted in many of the English schools, where other improvements have been slowly introduced. The lessons in arithmetic are begun with the ball frame used for infant instruction.

Sacred geography is used not only for the purpose of making the pupils accurately acquainted with the localities mentioned in the Scriptures, and with the curious physical state of the country, with its manners and customs and profane history, but as an incentive to them to search out from specified parts of the Bible the verses where particular places are mentioned, and to connect with the localities the incidents of the narrative.

The lessons in objects are modified from those arranged by Miss Mayo, and are adapted to the different ages of an elementary school. They are intended as guides to teachers in communicating oral instruction in regard to the objects met with in common life. The box of objects connected with them contains, in the small compass of less than three-sixteenths of a cubic foot, one hundred and twelve specimens of various productions of nature and art in different countries, each of which may form some part of an instructive conversation.* These lessons are supplementary to those of the infant school, in which more common specimens are used. They serve not only to give the direct mental exercise and the information, which are their principal purposes, but incidentally are made

* I have the pleasure to show to the Board one of these cases. A similar one ought to be furnished to every elementary school in the country.

the means of instruction in orthography, writing, and grammar. In their direct bearing they may be considered as introductory to the courses of technology, which belong to higher instruction.

The courses of natural history are among those which excite the greatest interest in the mind of a child, and which may be made most useful in developing the intelligence, strengthening the observation and memory, and conveying religious impressions appropriate to the age. Illustrated by pictures they are very attractive; but when the means of acquiring specimens are within the power of the school, the courses are rendered much more interesting. In the examination of plants and stones, they may be made subservient, also, to the purposes of air and exercise. It is, of course, understood that there is no attempt to teach the subjects as sciences, and specially for their own sake. They are mere introductory exercises to such studies, to which the tastes of pupils may perhaps lead them at a later period of instruction. The importance of forming museums of these objects is beginning now to be fully appreciated in the best schools.

Vocal music is not used solely for cultivating the ear or taste, but for producing its appropriate moral effects from the character of the songs, and as an important auxiliary to order and discipline, substituting harmony for noise during changes of position, and promoting regularity.

The Bible-training has already been described, and in regard to the higher subjects of instruction, which follow it immediately upon the programme, the classes had not yet reached them when I visited the school. Linear drawing upon the slate, and copying lines, or tracing the outlines of simple objects, are intended to be introduced. In general, the mechanical parts of instruction have not yet received their intended development. There is a lesson of an hour in Bible-reading* every day, in which the outline given in the infant school is filled up

* The Bible-stand is placed in front of the gallery, and is so arranged that it may be used to support a black-board or pictures. The hand-bell and whistle for signals used in the infant school, are still employed in this. The posts for the monitorial lessons are, in a great degree, superseded by books.

by more copious selections of historical or other matter. The pupils are exercised on the meaning of the words, on the leading points of the story, and on the moral lessons to be deduced, and it is found that if the premises are well laid down, the children will themselves draw the proper conclusions. The teacher is not permitted to inform them directly of any thing which by analysis, comparison, or illustration, they can be made to find out for themselves. Those pupils who can read are expected to go over the lesson. The mode of obtaining answers is, in part, by direct interrogation, and in part by the elliptical method. From the character of this school, and the connexion of its directors with the church, it must be considered a most important conclusion, in reference to the improvement of the parochial schools, that the method of conveying religious instruction by the learning of catechisms by rote, is inferior to that already described as in use here.

The system of changing places in the class is not approved as a principle, yet a modification of it is nevertheless in use. It would require very careful experiment under the actual circumstances of the pupils and teachers of any school, to prove that this mode can be dispensed with. I agree entirely as to the necessity for greatly modifying it, and as to the principle that the motive of emulation is an inferior one. In the present condition of society, however, I do not believe that emulation in schools can be entirely dispensed with, if we would have the youth in them prepared for active life. Men are esteemed by their fellows in proportion to their intellectual and moral qualities, and though society is not formally graded by placing individuals in the precise order of these qualities, yet every one is aware that some men have greater influence than others, because of higher intellectual and moral attainments, and the desire to stand high in the estimation of others is, at present, one of the strongest, though certainly not of the purest, motives to exertion. Self-emulation is a much more noble and safe guide to action, and no doubt may, under judicious management, be rendered a very powerful stimulus.

The principle of discipline laid down in this school, not to use

things which you desire a child should love, as a punishment, is an excellent one, and I regretted to see the practice, in some cases, going counter to it. Corporal chastisement has not been resorted to for two and a-half years.

*Moral and Physical Training.* As already stated, the play-ground, or "uncovered school-room," is considered the place in which moral training is to be accomplished, where the principles taught in the school may be carried into practice so as to become habits. Accordingly, the play-ground is not merely fitted up with the means of exercise, but is planted, in part, with flowers and fruit, accessible to all, but which are to be enjoyed under the injunction, "smell, see, but touch not." It has been, and is, in part, to this day, the reproach of England and the United States, that public property is always injured; that flowers cannot bloom, nor fruit ripen, unless when enclosed; and in France, which is considered as offering an exception to this barbarous practice, I fear that the result is produced rather by the certainty of detection and punishment, than from the influence of a higher motive. Education is the true source of relief from this reproach; if the child be trained to respect what belongs to the public, the man will never injure it. Such views have been decried as visionary, and the idea that a child could be so trained has been scouted. But facts prove that the visionary persons were only a little in advance of the times, and their training system has succeeded, and its principles will finally be so generally adopted, that to doubt them will be as remarkable as the idea itself originally appeared. In this particular school upwards of one hundred and eighty scholars, from the manufacturing classes of Glasgow, have been in the habit of using the play-ground for more than an hour and a-quarter every day for two years and a-half, without damage to the flowers or fruits which it contains. Great attention is paid to neatness in the play-ground, that the habits inculcated in the school may be carried out here. It affords, also, opportunities of exemplifying lessons on cruelty to animals, on truth, justice, kindness, and other virtues. The means of healthy exercise is given by the more simple kinds of gymnastics, one of the most

popular and excellent of which is the circular swing. Wooden prisms are furnished for building, and the more ordinary games of ball, &c., are also practised. There is an opportunity in the play-ground for a full display of character, which, when observed, and rightly managed, leads to the same system employed by a judicious parent at home, with the advantage of better opportunities of judging of the points of character which require developing or repressing, from the influence of numbers in making these points more prominent. It is plain that such a system of moral training, carried into an institution like ours, must be invaluable, and that its results will be felt not only by our pupils, but by the society through which they will be dispersed. There is, however, one consideration which should not be lost sight of. The recluse system which we are to follow in the main, not being that according to which society is organized, our pupils might not be trained for after life. Habits acquired in the institution might thus easily be broken through under the influence of new circumstances out of doors. The necessity for gradually approximating our arrangements to those of society at large is thus suggested, of developing the pupil as far as possible in the way in which he would be treated in a family. Of gradually, not suddenly, taking from around and beneath him the fostering arms of the institution, and of not abandoning him to his own direction until all reasonable means have been taken to give self-government, under the circumstances in which he is to be placed.

As a vent for the animal spirits of a child, the play-ground is an important auxiliary to the school. A quarter of an hour spent there between the lessons leads not only to health, but to greater quiet on the return of the pupil to the room. Supplementary to it are simultaneous movements, executed by the class by express direction of the master. The subdued quiet produced by a rigid discipline may be a necessary evil in large schools, but should still be considered as an evil, and means taken to counteract its effects by exercise from time to time in and out of the class-room. Hence the mechanical motions considered by some as so ludicrous in the Lancastrian system are

founded on a proper regard to the principles of physical education.

It need scarcely be remarked that this system of training can no more be carried on without the master's presence in the play-ground, than without it in the school-room, and in this particular it coincides with the best examples of practice in the German schools.

## THE SESSIONAL SCHOOL OF EDINBURGH.

The formation of a system of Sunday schools by the different church sessions of Edinburgh in 1813, showed that the week-day education of those who came for religious instruction on Sundays, was in many cases most grossly neglected, from a deficiency in the number of and attendance on the parochial schools, and that a reform in this particular must take place before any real progress could be made in the Sunday instruction. This led to the establishment of a day-school, in which a certain number of pupils, sent by the different sessions, were instructed gratuitously, and a still larger number from the quarter of the town where the school was placed, at merely a nominal fee. This school has been up to the time of taking its present form, entirely an experimental one. It was not begun by laying down a set of rules and regulations, but by authorizing the Secretary and Committee of the Board of Delegates to try such plans as might seem good to them. At first the arrangements and methods of the Lancastrian system were introduced; these made way for those of Dr. Bell, and the school owes its present reputation and influence to the admirable methods engrafted by Sheriff Wood, upon a skeleton form of the latter system. These were also experimental. Mr. Wood was not a teacher himself, but became so from the interest which he felt in this particular school. Beginning with his ideas as to the manner of improving the teaching of arithmetic, he made trial of his method, and its success led in turn to the explanatory system in reading, to its extension through all the classes, to the etymological method among the higher classes, to inductive instruction in grammar, and to an improved method in geography.

This system is eminently intellectual, its leading characteristic, however, being the exercise of the faculties through language. It neglects the advantages to be derived from objects, takes little or no cognizance of the physical education, and inculcates morals, without specially training in their practice. It is in fact the old method of the English school made intellectual. I should say that its influence has been more extensively felt in the higher schools than in the lower, and that its verbal character belongs rather to them than to the others. With Mr. Wood as the master, this system is intellectual in spite of the monitorial arrangements which it uses, but it is in the upper classes especially, whence the monitors are derived, that it shows its full character. With the monitors in general, though they may be directed to avoid routine, it is difficult to secure such a result; accordingly, I perceived distinctly, that under the diminished attention of Sheriff Wood at the school, and the administration of it by another teacher, its tone had essentially lowered from that usually supposed to prevail in it. This remark will be better understood, however, when speaking of the method of teaching.

The school-room is arranged as in the Madras system, with writing-desks around the wall. The classes occupy the floor, one-half of the pupils being there at a time. They form in arcs of circles, one behind the other, the middle scholar exactly facing the desk of the master, which is at one end of the room, and the monitors standing near the front and middle of the classes, which they face.

The arrangements of books and slates are made by the monitors a little before ten o'clock, and at ten the school begins. A prayer is said. Half the pupils occupy the desks, engaged in writing or cyphering. The other half are in classes on the floor, occupied with spelling, reading, grammar, &c. In half an hour they change occupations with each other. From eleven o'clock until twelve the first division is engaged with arithmetic, in classes on the floor, and the second writes. The monitors receive instruction from twelve until one, with a brief interval, the other pupils having an hour of recreation. At one the school

recommences, the first division writing while the second is on the floor. These change at two o'clock; at three the places of the pupils in their classes are recorded. They repeat the Lord's Prayer and are dismissed, except those who volunteer to attend a lesson in geography.

Saturday is a half-holiday. On Mondays and Saturdays the school is open to the inspection of visitors.

In the explanatory method of this school the reading-lessons are the great means of imparting incidental instruction; its application begins with the very elements, so that the child never reads a word without being made to understand it, nor a sentence without comprehending the words and their connexion. This renders the reading-lessons pleasing as well as easy, and thus they are made the vehicles of much useful information. The habit of minute analysis is cultivated, and, in the end, a great command and thorough knowledge of the English language is obtained by it.

The alphabet is learned as usual, the child being taught to name each letter and to recognise it. Then follow words (not mere unmeaning syllables) of two letters,* printed both in Roman and Italic characters, and simple sentences framed from them, all of which should in turn be explained by or to the pupil. Next are words of three† letters, arranged according to a system, with sentences combining the words, and adapted to the comprehension of the child. The reading-book, with words of four letters, which follows this, admits of a considerable variety

* For example, the first lesson contains the words Be, He, Me, We, Ye, &c., which the child should give his own notion of. Thus, spelling Be, he illustrates it by saying "to be good," &c., Me, the pupil may point to himself, &c. Any answers should be satisfactory which show some apprehension of the use of the word or its meaning.

† The first lesson in these letters contains words with two consonants followed by a vowel, as Fly, Cry, Ply, Sly, &c., sentences combining these and the foregoing, as "why do you cry." Next a vowel between two consonants. Here the pupil is called upon to supply examples which rhyme, and to read sentences made up of words not in the lesson, the sentences beginning now to assume a higher character as to moral sentiment or intellect. The succeeding lessons contain words ending with a dipthong or a silent *e*.

of matter, as Bible histories, ideas of natural phenomena, or of the more common trades and processes. All of these should be made instructive exercises, and will be so under intelligent teachers. Routine in all should be strictly avoided, as it destroys the spirit* of the method. The higher reading brings in geography and history incidentally, and subjects connected with mechanics, which are exceedingly popular among the pupils. There is a lending-library, to encourage a taste for reading out of school, which is much used.

Instruction in grammar, upon the inductive plan and without the use of a text-book, is begun early in the school. The method is that already described under the title of practical grammar in the Juvenile School at Glasgow. It is eminently successful as an introduction to grammar by rule, and is an exercise in which the pupil takes an interest, from the investigation which it requires of him.†

The etymological instruction introduced by Mr. Wood is one of the most striking features of his method. The teaching is also inductive, and even incidental to the reading, though, of course, the teacher must have a plan or systematic arrangement in his own mind, that important omissions may not occur.‡ As an example of their etymological lessons, suppose the pupil, in reading, meets the word "introduce," he is made to divide it, "intro" and "duce." He is told that "intro" is a prefix from the

* At my first visit to this school, I was highly pleased with the answers of a class of little urchins who were in words of three syllables. "*You*" was well illustrated by pointing to the master. "*Two*" by another pointing to himself and neighbour. "*Yew*," a yew tree. "*Ewe*," a female sheep. "*Dew*," water on the grass. Returning on the following public day, my pleasure was marred by hearing identically the same boys give precisely the same answers, showing that they had as much learned them by rote, as if they were definitions from an Expositor.

† Mr. Wood's plan will be found fully detailed in his "Account of the Edinburgh Sessional School."

‡ Wood's Etymological Guide, Oswald's Etymological Manual, and Oswald's Etymological Dictionary, have all been published to supply the demand for this kind of instruction, which has spread through the schools of Edinburgh with the best results. Mr. Gibson, of Cauvin's Hospital, was also engaged on a work on this subject when I visited Edinburgh, in 1837.

Latin, and means within. He is asked for some other word beginning with "intro," and soon exhausts "introduction," "introductory," &c. The other part is next taken up, and its meaning (to lead) is explained. Examples of it are given by different members of the class, as "adduce," "conduce," "deduce," "educate," "induce," "induction," "produce," &c. The teacher takes care that no important word is omitted in furnishing these examples. The true knowledge of the meaning of words thus acquired has led to the use of the method even in the classical schools, where it is found to furnish a new motive to study, by placing one application of his knowledge immediately before the pupil. The great command of words which it must give, when derivations from different ancient and modern languages are thus called for, is quite obvious.

The instruction in geography is entirely by the use of maps and oral explanations; places are pointed out on a map, and information given in respect to them. When their relative positions are well fixed in the pupil's mind, the points marking them are transferred to a black-board, with or without an outline of the limits of the country where they are situated, and the pupil is exercised in naming them; similar plans are pursued in regard to other parts of the subject. This, as well as other branches of Mr. Wood's method, approaches closely to that used in the best German schools, and requires considerable attainments in the teachers. If left to monitors, it cannot fail to lose its spirit.

The exercises in arithmetic are among the most striking in the school. Mental arithmetic is particularly cultivated, and the higher classes acquire an extraordinary facility in its accurate use. It is begun simultaneously with the second book of reading, and the lessons generally consist in part of mental and in part of written arithmetic,* one portion of the time being devoted exclusively to exercises, another to teaching a new

* In one of my visits to the school, a row of twelve figures was multiplied by the number five, in four seconds from the time when the instructor had given out the question, but he began by the multiplier, and some of the pupils were at work as he gave out the multiplicand.

rule with examples. The dull method of working through the questions of a book is not countenanced, the instruction as well as examples being given by the teacher or monitor.

In writing, which is begun upon the slate, as well as in cyphering, the pencil is put into a tin tube, that the child may not acquire a bad habit of holding it. Steel pens are used here and in several other schools which I visited, and answer well.

In regard to discipline and other school and class arrangements, this establishment is not peculiar. Mr. Wood regards corporal punishment as necessary, but requires that it should be used as seldom as possible. He is also an advocate for the system of places in a class, and of prizes for scholarship, but would especially encourage self-emulation, the principle upon which some other teachers rely entirely, to the exclusion of the first. He disapproves of tasks or confinement in the school-room, as associating study and school with ideas of punishment.

This institution is a remarkable instance of an intellectual reform, beginning with a charity-school, and extending upwards. It is but too often the case that schools for the poor are considered as appropriately of a lower grade than others; at least it is so in Europe.

### ELEMENTARY DEPARTMENTS OF THE MADRAS COLLEGE.

This institution resulted from an arrangement made by the late Dr. Bell, author of the Madras system* of education, with the authorities of St. Andrews, his native place. The Madras College replaces the Borough School, and besides is intended to exemplify the application of the system of mutual instruction to the various departments of elementary and higher education.

It is under the direction of four trustees, of whom the provost of the burgh is one. They legislate in regard to the institution in general, but the details of instruction are left entirely to the masters.

The college building is a beautiful structure, in the Elizabethan

* So called from its having been first applied by Dr. Bell, in a large school under his care, attached to an asylum for soldiers' children at Madras.

Gothic style, standing at a convenient distance from one of the main streets, and having in front upon the street the picturesque ruin of the monastery of the Greyfriars. The different schools are erected about a quadrangle, the cloistered sides of which form a sheltered play-ground, and all but the classical department being a single story in height. The great height of these rooms secures a good ventilation, but the arched ceilings and smooth walls are the worst possible for school-rooms, from the excessive reverberation. On the lower floor of the building of the classical department are a series of small school-rooms, intended for the teachers of modern languages, &c. Two of the masters have houses at the entrance of the grounds, and are allowed to take boarders.

The college is divided into five departments, entirely distinct from each other, the classical, French, mathematical, writing and drawing, and English departments. As the instruction in the last three belongs either in whole or part to the elementary period, I propose to make a few remarks upon it here, not intending, however, again to discuss the Bell system, but merely to present some of the peculiar points which were brought to my notice by a visit to this school, and intercourse with its intelligent teachers.

Each school has a teacher and an assistant, and every teacher is independent of the other, the arrangements in the subsidiary schools being, however, such as to admit attendance there without interference with the others, and the parents being free to choose which departments their children shall attend. The English department is divided into two sections, the school fees being higher in the one than in the other, which produces a corresponding difference in the character of the pupils. The lower school, as it may be called, contains four hundred children, varying in age from four to sixteen. Each class is separated into two parts, if required by its numbers, and is under the charge of monitors. The thorough Bell system is used in this section, and its intellectual character is much below that of the higher section, which is less numerous, and where the classes have the benefit of more immediate instruction from the assist-

ant master. It is a general rule that every class in both sections shall come before the master or his assistant every day, and this rule prevades the other departments of the college. In the lower section of the English school, however, from its numbers, this exercise must be a mere revision by the master, while in the higher it is a true lesson. In this section I heard an excellent recitation from the pupils in reading, with explanatory and etymological exercises, according to Mr. Wood's plan, in English grammar with the correction of false syntax, and in history. Girls and boys were mingled in the classes.

In the mathematical school arithmetic is taught by monitors, the lessons being revised by the master. Modern geography is also taught here, and the school is well furnished with outline maps without names. In the higher classes of arithmetic, the revisions by the master are more in the form of lessons, and in geometry the mutual instruction nearly disappears.

The pupils of the English schools all attend the writing school for an hour a-day. The monitorial system here produces very good results, and I have no doubt that when a merely mechanical branch is to be taught, it is entirely applicable. The monitors are divided into four classes, each of which serves during a quarter of the hour spent in school. Drawing is pursued at other hours by those who have the disposition for it.

The schools composing this college, the higher departments inclusive,* are among the best in Scotland, but they owe their merits to the character of the masters, and not of the method. In fact, the instruction appears to produce the best results where the monitorial system is least used, and the master's talent is directly exercised in teaching.

### CIRCUS PLACE SCHOOL, EDINBURGH.

It is seldom that the advantages of a decided improvement in instruction in one institution are lost to the public from not being

* The classical department is under the charge of the Rev. Mr. Carmichael, to whose hospitality and kind attention I feel much indebted.

transferred to others. I have already stated that the system of the Sessional School has led to considerable improvement in the various schools of Edinburgh. That in Circus Place was founded by subscription, to apply the intellectual method of Mr. Wood to the instruction of boys who are preparing for the Edinburgh High School or Academy, or other classical schools.

It receives pupils from the age of four to six years, and retains them until nine or ten, when they are fitted to begin a classical course. The intelligent rector* informed me, that he preferred decidedly such pupils as came from the infant schools to others, finding them more teachable and more tractable.

The school is purely an English one, and the branches taught are generally similar to those of the Sessional School. It has, however, a great advantage over the latter, in the fact that each class has an intelligent teacher, and hence no monitors are used, unless for the relief of the master in promoting order, by noticing offences. The classes are in different rooms, some of which have the benches placed upon forms rising in steps.

A great improvement has been made in the intellectual system here, by the introduction of objects of nature and art as the ground-work of many lessons. The advantages of this improvement are hardly yet fully realized. The directors are earnestly engaged, however, in extending the museum auxiliary to these lessons. There is a lending-library for the use of the school.

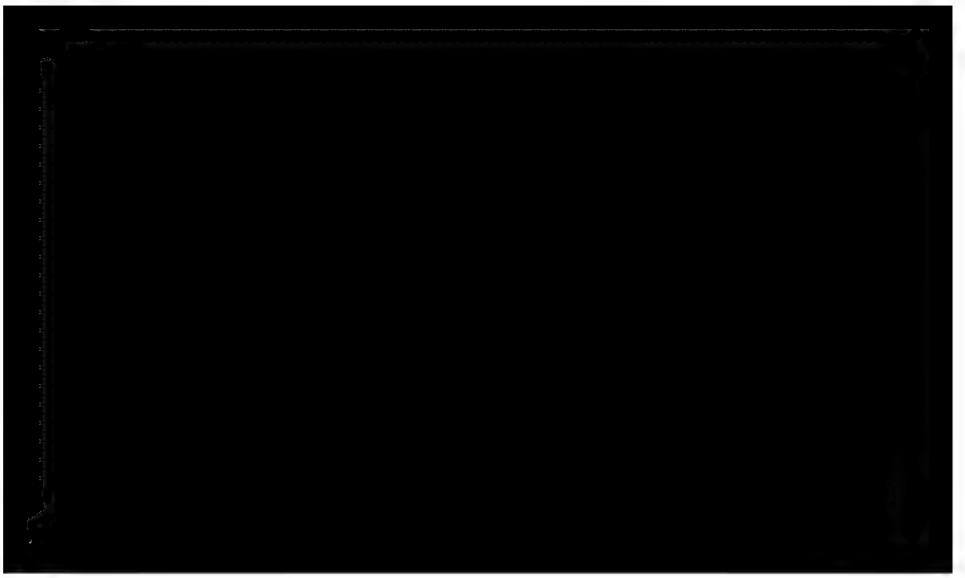
In the higher classes half an hour of each week day, except Saturday, is occupied with religious instruction. Two hours with reading and incidental instruction in grammar and history, &c. Half an hour with geography. Half an hour with grammar. Half an hour with arithmetic, and one hour with writing.

The highest class, composed only of boys, during their reading-lessons are fully drilled on "prefixes and post-fixes," and the analysis of our language, according to the method of Mr.

* The Rev. Alexander Reid.

Wood. Both in this and the next class the instruction which I witnessed was excellent.

The classes have an hour of interval in the middle of the day, which they are allowed to spend in the play-ground attached to the school, but no attempt at regular physical education has yet been made.



## CHAPTER III.

### PUBLIC ELEMENTARY INSTRUCTION IN FRANCE.

The present law regulating primary instruction in France, dates from the year 1833. Previous to framing it, M. Cousin was deputed by the Minister of Public Instruction to visit some of the states of Germany, the systems of which have the highest reputation, and especially Prussia. The information collected by him, and chiefly embodied in his Report,* is supposed to have contributed in an important degree to the framing of the new law. By one of the provisions of this law, primary instruction is divided into two grades, elementary, and superior primary, and the least amount of instruction admissible in each grade is defined. In the first is enumerated moral and religious instruction, reading, writing, the elements of the French language, and arithmetic, and the system of weights and measures prescribed by law. Linear drawing, is very generally added to these branches, and in many of the schools, vocal music is also taught.

To the subjects just enumerated, the law adds, as a minimum for superior primary instruction, the elements of geometry, with its common applications, particularly to geometrical drawing and surveying, the elementary principles of physical science, and natural history and geography, and particularly the history and geography of France. This superior primary instruction has spread but little, even in the metropolis of France, and the whole kingdom contained in 1838 but three hundred and thirty-two schools of the sort.† In Lyons I found but one public

* Report on the state of public instruction in several of the countries of Europe, and especially in the kingdom of Prussia, by Victor Cousin, Peer of France, &c.

† Two hundred and thirty-five of these schools are public, and ninety-seven private. Report of the Minister of Public Instruction to the King, on primary instruction, June 1, 1838.

school of this grade in 1838, and that but imperfectly developed.

While the law thus lays down the branches of instruction constituting the least admissible, it very properly says nothing about the methods of teaching. In the public schools there are, however, two leading methods, those of mutual and simultaneous instruction. The first is a modified Lancastrian system, originally introduced from England. The second is used chiefly in the schools of the "Christian Brothers," and its practices are derived from the founder of this religious body, the Abbé John La Salle. Specimens of both are to be found in the model schools attached to the Normal seminaries for educating primary teachers, of which there is one for every department of France, with one exception. Teachers educated in these establishments are expected to be able to use either method. In many of the schools fragments of the two are joined, constituting what has been termed a mixed system. It cannot, with propriety, however, be considered a special method, but is rather a modification, in various degrees, of one of the systems by the introduction of parts of the other. Of the schools upon the system of mutual instruction, I visited at Paris, with greater or less care, four, besides giving a glance at two others, in reference to musical instruction. Of those taught by the Christian Brothers I visited two. At Versailles, the two in connexion with the primary Normal schools, and the similar ones at Dijon. At Lyons, two of the first named kind and one of the second. The selection was made, of course, with reference to the merits of the schools in regard to which I had the best advice.* Those on the plan of mutual instruction were inferior to the English model, and those upon the other system, to the similar schools in Holland, or in Germany, generally. Hence, I do not feel warranted in entering into details in regard to them in this Report. Primary

* At Paris I was much indebted to the obliging offices of M. Lamotte, Inspector of Primary Schools, to whom I was introduced by the kindness of M. Cousin. I was also much obliged by the kind introductions of the Minister of Public Instruction, M. Salvandy, of M. Arago, and of M. Charles Coquerel.

instruction in France is in a state of transition, which, although it holds out a fair promise for the future, presents, at present, but little for imitation in the individual schools.

I ought to notice that the mode of teaching music adopted in the mutual instruction schools of Paris, has proved highly successful, and that, in general, the results of the attempt to introduce vocal music into these schools have surpassed the expectation even of its advocates. The introduction of linear drawing has also been attended with success, but the mode of teaching from engravings is, I think, for the purposes in view, inferior to that used in the schools of Berlin.

It must not be supposed, from the foregoing remarks, that I undervalue the efforts lately made and now making in France, in behalf of primary instruction. The law itself was a great step. The system of inspection, which was begun in 1833, was carried out by the permanent appointment of one inspector to each department in 1835, and greatly extended by creating sub-inspectors in 1838, and is a most valuable auxiliary to the law. The regulation of the schools for girls in 1836; the increase of primary normal schools from forty-seven in 1833 to seventy-four in 1838; the increase of more than a million in the attendance on the boys' schools alone, between 1829 and 1838;* the systematic encouragement to infant schools; all these are positive results, which have been already obtained, and on which France has great reason to congratulate herself. It was not to be expected that, with the previous deficiency in the number of schools for primary instruction in France, there would be great fastidiousness as to their character, which must, however, rapidly improve, if the introduction of well prepared teachers from the normal schools is allowed to have its full effect.

* These numbers are from a Report on Primary Instruction, by the Minister of Public Instruction (M. Salvandy) to the King of the French. Dated June 1, 1838.

## CHAPTER IV.

### PRIMARY INSTRUCTION IN HOLLAND.

Among the primary schools of Holland are some of the best which I visited, and the whole condition of popular instruction is worthy of a nation which has ever been distinguished for its virtue and intelligence.

The primary instruction of Holland began to receive its present form at the close of the last century, and chiefly by the instrumentality of the "Society for Public Utility," the branches of which extended throughout the country. This society established model schools where they were required, published cheap text-books, excited discussions on methods of teaching, and stimulated the local authorities and others to the establishment of new schools. Always withdrawing its efforts when no longer needed in the cause, it avoided the effects of jealousy, by showing that it had no desire for control.

With a view to produce system throughout the then Batavian Republic, a law containing the general principles which should govern primary instruction was passed in 1806, and was accompanied by a series of regulations, to carry out its details. The most important provisions of the law are those for the inspection and management of the schools, and for the due qualification of schoolmasters, the establishment of individual schools being left to the local authorities. The system of inspection is eminently adapted to a country where centralization has never existed, and has proved highly successful in its operation. It begins with the appointment in each school district of an inspector, and, when the schools are numerous, gives him the assistance of a committee.

The inspectors of the different school districts of a province form the Provincial Board of Primary Instruction, who meet thrice every year, receive the reports of the inspectors, delibe-

rate upon the concerns of primary instruction in the province, and make report annually to the minister of the interior. To carry out this system, the minister of the interior has authority to convene at the capital an assembly of delegates from the provincial Boards, to advise upon general matters. Only one such meeting has, however, taken place. In the general control of primary instruction, the minister of the interior is replaced by an officer called a referendary, and there is also an inspector general,* who resides at the Hague.

To be admitted to the rank of a teacher, certain preliminary examinations must be passed before the school-inspector, or local or provincial Board, according to the grade sought. There are four grades, requiring each a different examination. The lowest of these may be obtained at the age of sixteen, the third at eighteen, and the second at twenty-two. The second qualifies for the mastership of any primary school, and the first is, in fact, honorary. To pass the examination for the second grade, the candidate must be able to read and spell correctly, to write a good hand, must have a knowledge of the theory of the Dutch language, geography, history, arithmetic in all its branches, and a facility in imparting instruction. His moral and religious qualifications are also ascertained.

This general examination entitles an instructor to become a candidate for vacant schools, either public or private, but does not supersede the special examination or competition which may be required by their directors.

The law, besides, enjoins upon the local authorities, on the one hand, to furnish a sufficient number of schools for the population, and on the other, not to allow such a number as to render the income of the several masters inadequate to their support.

The definition of a primary school, as given in one of the regulations issued to complete the law, covers a wide field. According to it, a primary school is one in which youth is in-

* To this gentleman, M. Wynbeek, I am indebted for much attention, for which I beg leave here to return my thanks.

structed in the first principles of knowledge, such as reading, writing, arithmetic, and the Dutch language, or the more advanced branches, such as the French, or other modern languages, or the ancient languages, geography, history, and other subjects of that description. There are several different kinds of schools, corresponding to different grades of instruction in these branches. Infant school instruction is included in the primary department, but it is not yet fully developed, being limited chiefly to Rotterdam and Zwolle.

The lowest schools are those for the poor (armen-scholen), and which are entirely gratuitous. The children enter at from six to seven, and remain until twelve or fourteen. As supplementary to them are evening schools, principally intended for revising former courses, and which should be attended until sixteen or eighteen years of age. As the attendance in these latter schools is not obligatory, the proportion of those who receive instruction in them varies much in different localities.

The next are called intermediate schools (tusschen-scholen), in which the pupils pay a trifling fee.* Both these are, in general, public. Some have been established by the school-committees, and after a few years have become self-supporting. The grade of instruction is rather higher than in the schools for the poor, but as the law does not prescribe any particular programme, it varies much in the different parts of Holland—a school which would be called intermediate in a small town ranking below one of the gratuitous establishments for the poor in one of the chief cities. The amount taught depends, other circumstances being the same, upon the average age to which the children remain at school, and, therefore, varies also in the different parts of the kingdom.

The next grade, or burgher school (burger school), is, in general, a private establishment. It is distinguished from both the classes just enumerated by a larger fee,† and, in general, by

* For example, in an intermediate school at Rotterdam which I visited, eight cents a week.

† The school fee at the burgher school at Haarlem is between six and seven dollars a year.

a higher grade of instruction; but while in a single town or district it is easy to perceive this gradation, yet it is scarcely possible to observe it on a comparison of the country at large. In some places, the last mentioned school is called the Dutch school, to distinguish it from the following class.

The school denominated the "French School"* is the highest of the primary division, and is, in general, a private establishment, though frequently of the kind classed by the law with private schools, but superintended, in reality, by the local school-committee itself. Besides the branches taught in the other schools, the courses of this embrace the French language, of which the pupils acquire a grammatical knowledge, and which they are enabled to speak with considerable facility. These schools prepare their pupils for entrance into active life, and serve, also, in some degree, as feeders to the grammar or Latin schools. The instruction in French is not, however, an exclusive mark of this grade of institution, as the descendants of the French emigrants, constituting the Walloon congregations, continue the teaching of this language in the gratuitous schools for the poor connected with their churches.

While, in point of fact, there is not the regular fourfold division of primary instruction which thus appears, it is difficult to draw a separating line.† The intermediate school connects the school for the poor and the burgher school, while in the burgher schools, the same branches are studied as in the French schools, except the French language. The less number of children under the charge of one master, the greater age to which the children in general remain at school, the generally greater capacity of the master, from the higher salary which his talents command, the greater family culture of the children before coming into and while in the school, render the average progress in the burgher school of a given place superior to that

* All these classes, viz., Infant, Poor, Intermediate, Dutch, and French Schools, were noted in the returns of the school-committee at Rotterdam, which their secretary, M. Mees, had the kindness to show me.

† M. Cousin, in his work, "De l'Instruction Publique en Holland," 1837, places the division between the burgher and the French schools.

in the intermediate school, and in this latter higher than in the school for the poor. I must say, however, that in more than one case, in the same place, I could detect no difference in the school itself, between the intermediate and the burgher school, except in the greater comfort of the accommodations of the latter; and I have already remarked that, in comparing the establishments of different places, the name is not an accurate guide to the grade of the school.

A sketch of the arrangement of the primary schools themselves would, I have thought, be rendered more compendious, without injury to its fidelity, by selecting for particular description one of the schools for the poor, which, as a class, rank higher in Holland than in any other of the European states, and engrafting upon the account of this, remarks on the methods of other schools; concluding by a brief statement of the particulars in which the intermediate, burgher, or French schools differ, in general, from the assumed type, or from each other.

Before doing so, however, there are some points fixed by the school regulations which require notice. The first is, that the system of instruction must be that called simultaneous, or in which all the pupils of a class take part at once. In practice, this requires to be varied by questions adapted to individuals, and the classes, therefore, must not be too large. In the intermediate schools I found, more commonly, classes of from thirty to fifty, the lesser number being well adapted to the method. With a well trained master, and a class of moderate numbers, this kind of instruction is the most lively that can be imagined, and when judiciously varied by questions put to all, but which only one is permitted to answer, it is also thorough. It is, in a great degree, the system already described of Mr. Wood's own class in the Edinburgh Sessional School.

The method of mutual instruction is not at all favoured in Holland. A very decided and general opinion against it appears early to have been brought about by the comparison of the English schools with their own. A prize was offered for the best dissertation on the subject by the society for public utility, and taken by M. Visser, inspector of primary schools

in Freesland. This excellent dissertation* which was published and widely distributed by the society, no doubt contributed to form or to strengthen the opinion which prevails at this day.

The only approach to the monitorial system in the schools of Holland is, that pupils who have an inclination to teach, and who will probably become teachers, are put in charge of the lower classes of a school. Thus, also, some of the best monitors of the Borough-road School in London are boys who are likely one day to follow the career of teaching. There is, however, a very wide difference between the use of a few apprentices to the profession, and that of a large number of monitors to give instruction. I had occasion to observe, however, that in many cases there was a want of life in the younger classes entrusted to these inexperienced teachers. If they are to be used, it would be better to employ them in classes which have some training, even though nearer the teacher's age and attainments.

The next point is in regard to religious instruction in the schools. There is unbounded toleration of religious creed in Holland, and while the necessity of religious instruction in the schools has been strongly felt, it has been made to stop short of the point at which, becoming doctrinal, the subjects taught could interfere with the views of any sect. Bible stories are made the means of moral and religious teaching in the school, and the doctrinal instruction is given by the pastors of the different churches on days appointed for the purpose, and usually not in the school-room.

The last point is in regard to the choice of school-books. The publication of them is not left to open competition. Every book, before it can be used in a public school, must be submitted to the examination of the minister of the interior, acting of course by deputy, and if approved, is admitted to the list of books which may be used in the schools. From this list the provincial board of primary schools select those which they

* "Essays on the subjects of instruction necessary in the schools for the poor, and on the best methods of instruction, with a comparison of these methods and that of the Bell-Lancastrian method." 1820.

consider best, to be used in their province, and from their list the teachers choose such as they approve. In private schools the teacher selects his own books, but he must report a list of them to the inspector.

There are two normal schools for the education of teachers for the primary schools, one at Groningen, established by the society for public utility, the other at Haarlem,* by the government. Formerly all instructors were prepared in the different primary schools. They began to teach as early as twelve years of age, attending the evening school to make up their loss of time during the day. At sixteen they had served their apprenticeship, and were admissible to the fourth grade of teachers. This method prevails still to a considerable extent, but as it has been found to produce rather routine than intelligent teaching, the two normal schools have been established to supply the defect.

The *material* of elementary intellectual instruction consists in most countries of reading, writing, arithmetic, and a knowledge of the mother tongue, to which the geography of the country, and sometimes general geography, natural history, linear drawing and vocal music are added. Special exercises of the perceptive and reflective faculties are also included in the more improved intellectual systems. While the material is thus nearly the same, nothing can be more different than the results produced by the schools, according to the use which is made of it. In some the means are mistaken for the end, and if the pupil is enabled to read, write, and cypher mechanically, the school is supposed to have done its duty. In others these branches are employed as the means of developing the intellect as well as for the communication of useful knowledge; according as one or the other view is taken, the instruction is arranged in conformity with it. In Holland the intellectual methods of Pestalozzi have taken deep root, and the enlightened state of public opinion, in regard to elementary education, prevents in a great degree a mechanical system of teaching.

* Established in 1816.

The plan of the school for the poor at the Hague, to which I now proceed, will justify this remark. To render it clear, I shall, even at the risk of dwelling rather long upon it, present first the essential features of the instruction; next show the chief steps in the entire course, from which a just idea of the character of the whole of it can be formed, appending to this some remarks upon the methods of teaching and the text-books: then, by separating the exercises of the classes, and attaching to each the number of hours devoted to it per week, I shall show that this is no theoretical programme,* but one formed for practice; and this will further appear by stating, in conclusion, some of the results which I witnessed at an examination of the pupils.

This school, I should remark, though ranking with the best of those which I saw in Holland, is not distinguished above several others of its class, and in its intellectual character seemed to me decidedly below many of the intermediate schools where the pupils are less numerous. It is therefore no exaggerated statement of what is obtained between the ages of six and twelve or fourteen. The subjects of instruction, including intellectual and moral, are:

Exercise of the perceptive and reflective faculties. Learning to read according to Prinsen's method, including the spelling of words and the analysis of words and simple sentences. The composition of simple sentences with printed letters. A knowledge of the different kinds of printed and written letters. Writing from dictation, for orthography. Correct reading of prose and poetry. Grammar of the Dutch language. Geography of Holland. History of Holland, including its chronology. Writing, beginning and ending with writing on the black-board. Linear drawing. Arithmetic by induction. Mental and written arithmetic, with a knowledge of the Roman numerals. Practical arithmetic, to decimal fractions inclusive. The theory of numbers. Moral and religious instruction. Vocal music.

As natural history does not appear either in this programme or in others of primary† schools, I was at the pains to ascertain if

* Kindly furnished me by the request of the Inspector-general, M. Wynbeek.

† It occurs by name as well as physics, upon a list of subjects and books furnished to me by Mr. Prinsen, at Haarlem, as those used in the normal school, but I did not see it on the list of exercises of the primary schools.

any thing was taught in relation to a branch so eminently calculated to promote early religious impressions, and found that incidentally information was given on the habits of animals, and some of the phenomena of the physical world. It will be observed that in this school, as in general, physical training forms no part of the system. In Holland the gymnastics, so popular in Northern Germany, have never been permanently introduced, even in the boarding schools.

The nature and extent of the instruction in the branches enumerated above will be best understood by the following list of progressive exercises:

1. Exercises of thought, reason, and intelligence.
2. Reading. Prinsen's Reading Tables. Vowels and consonants from the letter-box. Composition of words on the reading-board. Explanation of words and simple sentences. Spelling from memory. Exercises in reading different printed and written characters. Simultaneous reading from a series of books graduated to the capacity of the class. Explanation of words met in reading. Composition of sentences on the reading-board. Writing from dictation for orthography. Correct reading. Composition of simple sentences.
3. Grammar practically. Conjugation of verbs, &c. Parsing.
4. History of Holland and chronology.
5. Geography of Holland.
6. Writing. Elements of writing on the black-board. Writing on slates. Writing of numbers. Linear drawing. Writing on paper. Writing capital letters and large hand. Exercises of writing on the black-board.
7. Arithmetic by induction. Mental arithmetic. Reading Roman numbers. Practical arithmetic. Tables of moneys. Exercises in reading numbers. Decimal fractions. Tables of weights and measures. Theory of arithmetic. Elements of form.
8. Moral and religious instruction. Bible stories, &c.
9. Singing.

In giving a short explanation of the exercises just enumerated, I shall not confine myself to the methods followed in this particular school, with all of which indeed I am not acquainted, but give them as in most general use, especially as I saw them practised in the schools of Haarlem, which have the advantage of immediate contact with the seminary for teachers there, and the use of its pupils as sub-teachers.

The exercises of perception and reflection in frequent use,

are those recommended by Ewald,* and consist of a selection from various authors, as well as of many subjects on which the teacher is expected to be informed. The instruction is given orally, according to the following outline: The child is taught to observe and to speak correctly, by referring to objects which are about him.† Knowledge of colours. Of some varieties of form, as round, square, &c. Naming of words of similar and contrary significations.‡ Meaning of verbs in common use. Numerating by cubes. Knowledge of coins of the country and their relative values. Division of time. To tell the time by a watch. To distinguish the true from the false. Questions on nature and art.§ Qualities of resemblance and distinction. Compound expressions, as "good day," "besides," &c. Witty sayings. Points of the compass. Lessons on weights and measures. On different metals. Articles of furniture in common use. Different daily occupations. The four ages of man. Different ranks of society. Proverbs and phrases. Riddles and charades. Fables. Honourable and dubious actions. Explanations of words.

Systems, in my opinion better than those of Lohr, are in use in Germany, but this enumeration shows what in general these exercises are in the Dutch schools.

The arrangements for teaching reading, according to Prin-

* Korte handleiding voor het Onderwijs der Jeugd, &c., door Johann Ludwig Ewald, geheel omgewerkt en met aanteekeningen vermeerderd. (Amsterdam, 1826.) From the German, with revision and additions.

† Pestalozzi's Book for Mothers is referred to. I had an interesting example of the entire want of previous instruction of a class of children of six years of age, who had just entered an intermediate school at Haarlem. They had received their first lesson in the morning, that of *keeping quiet*, and in the afternoon, the teacher, to show me the materials upon which he had to work, gave a lesson of induction. The children did not know the meaning of the words right and left. The front of the head from the back. And when taught to know the right hand from the left, could not tell the right *eye* from the left. Reading is taught in from nine to twelve months, to such pupils, by the phonic method applicable to the Dutch language.

‡ Lohr's "Food for the Understanding," translated from the German, is the manual referred to by the teachers.

§ Lohr's work is used as a guide to many of the exercises which follow.

sen, are a spelling and reading-board to be presently described, reading-tables or progressive lessons printed and pasted upon boards, and a series of reading-books, beginning with the simple vowel sounds and rising to stories for children who have a facility in reading. There is a manual also for the teacher to guide his lessons. The reading-board* consists of a centre piece with horizontal grooves, or raised ledges forming grooves between them, into which small wooden prisms, having letters marked, or printed letters pasted upon them, may be placed. The vowels are arranged in compartments on one side of the centre-piece, and the consonants on the other. The letter-prisms have the same letter in different characters, capitals and small letters, on four faces of the prism. This reading machine admits of a great variety of exercises in the mechanical arrangements concerned, in which the pupil takes part, such as composing simple words and sentences, and forming words from the letters composing them, which have been purposely disarranged. The reading-tables of progressive lessons are for the purposes of varying the exercises, of employing a number of children actively at the same time, and for habituating them to letters of the ordinary size. They are nine in number, beginning with single vowels, and terminating with words containing several compound sounds. All the combinations of letters used form words, as in Mr. Wood's plan, and the teacher is careful to require an explanation of every word as it occurs. Prinsen's Primer enables the teacher to exercise the intelligence of the pupil, and to give a pleasing variety to his instruction. There are pictures attached to each letter, representing some object or action, the word referring to which contains the vowel sound to be taught. The teacher draws from the pupil a description of the object or action, and when he has obtained the right word, makes the child remark the sound of the letters. Of course, these sounds are not the arbitrary names of the let-

* Prinsen, in his book on the methods of teaching to read, "Te leeren lezen," attributes the invention of the reading-board to Dellebarre.

ters, and hence this method, to distinguish it from the spelling method, is called "phonic" (lautir). The reading-machine and primer are used in conjunction. When the pupil has reached the "first reading-book," the teacher reads aloud, that the former, by following, may receive ideas of emphasis. The reading-books contain stories entirely adapted to the comprehension of children, giving them ideas of common trades and operarations, of moral sentiments, of nature, of the biographies of the worthies of Holland, familiar letters, &c. They contain various forms of printed and written alphabets.

In learning to write, beginning upon the slate or board, one of the pupils composes a word upon the reading-board with written letters; then all name the sounds, and copy the forms upon their slates. In some schools, elementary forms are first taught, and the letters of large hand next written. In others, small hand is made the basis; and in the school for the poor at the Hague, the teacher has ingeniously sifted out the elements of a current small hand, and begins with them. From the best examination I could give these methods, it appeared to me that the hand begun by small letters was not so good as that begun by large ones.

A specimen of the method of teaching geography will be seen by following the outline of Prinsen's Description of Haarlem, used as a guide to the teachers of that place. It begins with the elementary notions of the manner of representing a country on a map, the points of the compass, &c. Then follows the position of the town, its size and the character of its environs, number of its inhabitants, most remarkable buildings, the divisions of the town, the gates, principal canals and streams, principal streets, and particulars relating to remarkable buildings in them, and minute descriptions of the more important places in the several wards, from the first to the sixth. After thus becoming acquainted with the geography of the town and its environs, that of Holland follows. In some schools, the old method is still in use.

Arithmetic is chiefly taught according to Pestalozzi's me-

thod, cubical blocks being used for numeration. These have been superseded, in some countries, by the arithmetical frame spoken of before, which answers the same purpose of addressing the eye, while its use is more convenient than that of the cubes. The method is by induction. The first lesson teaches to combine three units, variously, by addition. The second, to reckon these forwards or backwards. The third, to name them from the middle. Then ideas of comparison, as of greater or less numbers, up to three units. Of differences, of how many times unity must be repeated to make two or three, or elementary ideas of subtraction, of multiplication, and of division. The same course of lessons is repeated, increasing the number of cubes (units) up to ten. Next follows ideas of even and uneven numbers, and of the result of their combinations, reaching as high as fifteen. Counting by units, by twos, by threes, and following the same steps as in the earlier lessons. Counting by twos and threes, by ones and threes, &c. and always repeating the same train. A similar course is followed in reckoning up to twenty, adding counting by fours, by threes and fours, by twos and fours, by ones and fours, and a similar series by fives. This course is kept up as long as necessary, and from the insight it gives, from the very beginning, into the theory of arithmetic, a judicious teacher will be amply repaid for the somewhat tedious repetition of the earlier steps, by the facility of the later progress. The various exercises in arithmetic are fully detailed in the programme of the Hague school, already given. The elements of form are also taught according to Pestalozzi.

The results of the moral and religious instruction communicated in and out of school, are fully shown in the character of the people of Holland; and these must be deemed satisfactory. Sectarian instruction is carefully kept out of the schools, while the historical parts of the Bible and its moral lessons are fully dwelt upon. There are various collections of Bible stories for this purpose, which are commented on by the teacher, and all the incidental instruction, so important in a school, has the same

tendency. Doctrinal instruction is given, according to an arrangement made with the churches of the various denominations when the school law was promulgated; this instruction is imparted out of the school, on the half-holidays and Sundays. Sometimes, when, as at the Hague, the pupils nearly all belong to one communion, a catechist attends at the school; but even then, only those children whose parents wish it are present at the exercises.

Music is taught by note, and most of the schools have a black-board with the ledger lines painted in white or red upon it, to assist the teacher. The songs are of very various characters, as moral, religious, patriotic, grave, gay, and loyal; and very considerable attainment is made in vocal music.

I return now to the school of the Hague, to give an account of the manner in which the various exercises are accomplished, within the six or eight years devoted to elementary instruction. As the law requires but three classes in each school, these are sub-divided. Each division is, in fact, a separate class, with a distinct course of study, and an industrious pupil can pass through one division each year. The number of hours marked, are those devoted per week to the several subjects.

### FIRST, OR LOWEST CLASS.

#### FIRST DIVISION.

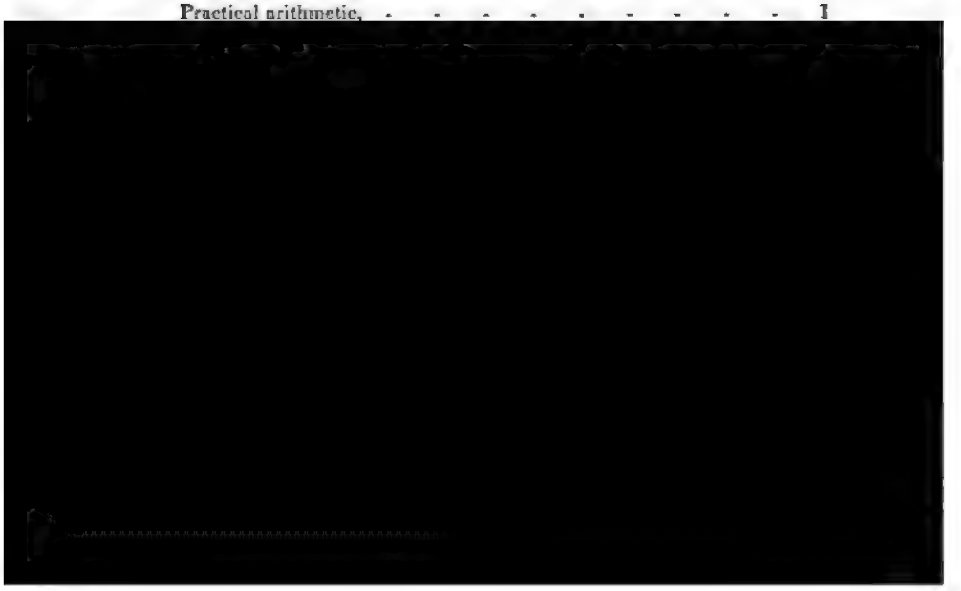
| | Hours. |
|---|---|
| Exercises of thought and reason, | 2 |
| Prinsen's Tables, | 6 |
| Vowels and consonants from the letter-box, | 1 |
| Composition of words on the reading-board, | 3 |
| General exercises with the letter-box, | 1 |
| Spelling from memory, | 1 |
| Explanation of words and sentences, | 2 |
| Simultaneous reading from books, | 4 |
| Individual reading, | 1 |
| Reading different printed characters, | 1 |
| Mental arithmetic, | 1 |
| Exercises in arithmetic, | 2 |
| Learning Roman and Arabic numerals, | 1 |
| Sitting quiet, | 1 |
| Exercises of thought and reason, continued, | 2 |

SECOND DIVISION.

| | Hours. |
|---|---|
| Vowels and consonants from the letter-box, continued, | 1 |
| Spelling from memory, continued, | 3 |
| Explanations of words and sentences, continued, | 3 |
| Simultaneous reading from books, continued | 7 |
| Composition of sentences on the reading-board, | 1 |
| Reading written characters, | 2 |
| Writing on the black-board, | 1 |
| Arithmetic by induction, continued, | 1 |
| Mental arithmetic, continued, | 1 |
| Writing and reading numbers, | 2 |
| Reading Roman numerals, | 1 |
| Elements of form, | 1 |
| Sitting quiet, | 1 |

THIRD DIVISION.

| | |
|---|---|
| Exercises of thought and reason, continued, | 2 |
| Spelling from memory, continued, | 1 |
| Explanation of words and sentences, continued, | 1 |
| Simultaneous reading from books, continued, | 7 |
| Composition of sentences on the reading-board, continued, | 1 |
| Writing on the black-board, continued, | 1 |
| Reading written characters, continued, | 1 |
| Grammar, the conjugations, | 1 |
| Writing on slates, | 1 |
| Writing out verses to learn by rote, | 1 |
| Linear drawing, | 1 |
| Arithmetic by induction, continued, | 1 |
| Mental arithmetic, continued, | 1 |
| Practical arithmetic, | 1 |



| | Hours. |
|---|---|
| Correct reading, | 1 |
| Parsing, | 1 |
| Writing on slates, | 2 |
| Writing small hand on paper, | 5 |
| Mental arithmetic, continued, | 1 |
| Practical arithmetic, continued, | 2 |
| Tables of coins, continued, | 1 |
| Elements of form, continued, | 1 |
| Linear drawing, continued, | 1 |
| Moral and religious instruction, continued, | 1 |
| Singing, | 1 |

SECOND DIVISION.

| | |
|---|---|
| Exercises of thought and reason, continued, | 1 |
| Simultaneous reading from books, continued, | 5 |
| Correct reading, continued, | 1 |
| Composition of sentences, continued, | 1 |
| Writing on the slate, continued, | 1 |
| Writing on paper, continued, | 4 |
| Writing capital letters, | 1 |
| Linear drawing, continued, | 1 |
| History of Holland, | 1 |
| Geography of Holland, | 1 |
| Arithmetic by induction, continued, | 1 |
| Mental arithmetic, continued, | 1 |
| Practical arithmetic, continued, | 3 |
| Rules of arithmetic, | 1 |
| Decimal fractions, | 1 |
| Elements of form, continued, | 1 |
| Moral and religious instruction, continued, | 1 |
| Vocal music, continued, | 1 |

THIRD CLASS.

| | |
|---|---|
| Exercises of thought and reason, continued, | 1 |
| Simultaneous reading, continued, | 1 |
| Correct reading of prose and poetry, | 1 |
| Writing from dictation for orthography, | 2 |
| Grammar, continued, | 1 |
| History of Holland, continued, | 1 |
| Chronology of Holland, | 1 |
| Geography of Holland, | 2 |
| Writing of small hand from copy-slips, | 2 |
| Writing capital letters and figures, | 1 |
| Writing on black-board, | 1 |

| | Hours. |
|---|---|
| Mental arithmetic, continued, | 1 |
| Practical ditto, ditto, | 4 |
| Rules of ditto, ditto, | 3 |
| System of weights and measures, | 1 |
| Theory of numbers, | 1 |
| Moral and religious instruction, continued, | 1 |
| Catechism, continued, | 1 |
| Vocal music, continued, | 1 |

The half-yearly examination of the pupils, at which I was present, enabled me to hear their progress in arithmetic with the cubes, in reading and spelling, in forming words and sentences, in numerating written numbers, making Roman numerals, in higher reading, in the elements of form, in higher arithmetic, in mental arithmetic, in the geography of Holland, and in vocal music. Their attainments in these branches were, in general, quite respectable, and in some of them very satisfactory indeed.

The system of weights and measures is taught in the schools of Holland, not only by learning tables, but by reference to the standards themselves, a complete set of copies of which is expected to be preserved in every school. The advantages of this method are very great.

The branches taught in the schools for the poor are carried further in the burgher schools. Thus the course of grammar is extended, and general history and geography are added. The essentials are, however, the same, and there is no new train of study.

The instruction in the, so called, French schools, may be illustrated by that in the one established by the school-committee of Utrecht. This school consists of three divisions: two for boys and one for girls. Of those for boys, the first is a Dutch elementary school, which takes its pupils at about five years of age, and carries them through a course very similar to that already described.* At from ten to eleven they pass

* I was much pleased to see the method of teaching geography by delineating maps on the black-board in use in this school. The master himself must be practiced in the art, in order that the pupils may learn by imitation.

to the French school. Here they make further attainments in the Dutch language, study general geography and history in detail, carry their arithmetic further, and begin algebra, continue the course of geometry, make greater progress in the theory and practice of music, and, above all, study the French language grammatically, and, by using it as the language of recitation, and learning much of the other branches through its medium, acquire a great facility in speaking it. In some of these schools physics and natural history are taught, and Latin is begun by those who intend to enter the Grammar School.*

* As, for example, in an admirable private school by Mr. Tip, at Utrecht. The school of the committee just referred to is also called private, not being supported by the public funds, but its plan is prescribed by the committee.

## CHAPTER V.

### SYSTEM OF PRIMARY INSTRUCTION AND SCHOOLS OF PRUSSIA.

Of the primary schools in the different states of Germany which I visited, those of Prussia, and of the smaller states in its immediate neighbourhood, struck me most favourably. After giving a sketch of the system of public instruction in Prussia, I shall proceed to an account of certain of its primary schools; then notice some of the primary schools of Saxony, prefacing the account by a few words on its system of public instruction; next describe the model primary school of the town of Frankfort on Maine; and, finally, conclude the subject of the primary period by an account of the school method of Graser of Bayreuth, in Bavaria. The organization of primary instruction in general, in Bavaria, is not such as to demand a special notice.

It is a very general impression, that the present primary school system of Prussia is of comparatively recent date, or that it has been, within twenty years, recast and moulded into its present form.* The fact however is, that it is a system

* This impression is derived, as well as I can trace it, from the Report on the State of Public Instruction in Prussia, &c., by M. Victor Cousin. M. Cousin quotes largely from, and comments upon, "the legislative project of 1819, which has the force of law, and regulates the present order of things throughout the country." (American edition of Report, &c., p. 25.) He speaks so often of "the law of 1819," that it never occurred to me to doubt that there was such a law, until I came to consult authorities, namely, the authorized collection of laws on primary instruction, by Dr. Neigebaur, (Sammlung der auf den öffentlichen Unterricht in den Königl. Preuss Staaten sich beziehenden Verordnungen, &c., 1826.) (Das Volks-Schulwesen in den Preussischen Staaten, 1834), and the Annual of Common School Instruction, by Dr. Beckedorff. (Jahrbücher des Preussischen Volks-Schulwesens.) In neither of them is a general law on public instruction of the date of 1819, or notice of such a law, to be found, and some of the provisions enumerated by M. Cousin are not contained in any of the decrees

composed of fragments of very different dates, beginning in the Mark of Brandenburg, before the kingdom of Prussia existed, and variously modified from that time to the present. It is one of the peculiar merits of the system, that its provisions have, for the most part, been tried on a small scale before they have been applied to the whole country, and that when a provision has, on trial, proved ill devised, it has been promptly modified or annulled. Prussia seems, for a series of years, to have possessed patriotic and enlightened citizens, who have devoted themselves to the cause of public instruction, and monarchs who have duly estimated and encouraged their exertions in this cause.

I propose to sketch some of the earlier measures, in regard to primary instruction, in chronological order, to establish the point as to the early date of many important regulations now in operation; then to give a short account of the most important provisions of existing laws, attaching to each the date at which it appears in the statute-book, so that the chronological order may still be ascertained.

As early as the reign of the Elector Joachim the Second (1540), visiters were appointed to inspect the town schools of the

actually given, while many are in decrees antecedent, and others in decrees subsequent to 1819. These and other German authorities are, besides, directly opposed to the existence of such a law. Neigebaur, in the preface of his work published in 1834, expressly says that no general law exists. "The progress of the important department of public instruction has hitherto rendered it impossible to make a general law in relation to public instruction in Prussia. All the important measures, up to this time, are contained in separate ordinances, which, as the older collections have become obsolete by this progress, must be compiled anew for the use of teachers and officers." Mr. Thiersch, of Munich, in his work on the present condition of public instruction in certain states of Germany, (Uber den gegenwärtigen Zustand des öffentlichen Unterrichts in den westlichen Staaten von Deutschland, &c., von Friedrich Thiersch, 1833,) says, in speaking of Prussia, "In a decree in relation to public instruction in 1817, a general school system had been promised," * * * * "but this royal promise has remained unfulfilled for eighteen years."

The numerous writers out of Germany, who speak on this subject, have evidently drawn their conclusions that the law of 1819 is in existence, from M. Cousin's authority, and hence cannot be considered as giving independent testimony on the matter.

Electorate, with express directions to report in relation to the measures deemed necessary for their improvement.* In 1545 the same elector appointed a permanent council, or board, on church and school matters. In a decree of some length by the elector John George (1573), special sections are devoted to the schools, to teachers and their assistants, and to pupils. It is remarkable as containing a provision for committees of superintendence, consisting of the parish clergyman, the magistrates, and two notables, exactly similar in constitution to the present school-committees. It provides also for Sunday catechetical instruction of children.

In 1717 a decree of Frederick William the First, King of Prussia, enjoins upon parents to send their children to school, provides for the payment of teachers, for the education of poor children, and for catechetical instruction by the parochial clergymen.† In 1735 the first regular seminary for teachers in Prussia was established at Stettin, in Pomerania.‡ To induce a better attendance at school, a decree of 1736 requires that the parent of every child between five and twelve years of age shall pay a certain fee, whether his child goes to school or not; this rule being, as it were, preliminary to the present one of forced attendance.§ The same decree refers to school-houses erected by associated parishes, showing that such associations existed previously to the decree for providing public schools; similar associations may even now exist, but they are not numerous, forming exceptions to the general rule, requiring each parish to have its public school. The decree provides further for the amount of fees to be paid to the teacher by the pupils, the church, or the state, and for aid to peasants who

* Beckedorff Jahrbücher des Preussischen Volks-Schulwesens. Zweiter Band. Erst. Heft. Beckedorff's Annual of Common Schools in Prussia, vol. ii., No. 1, pp. 18, 19, &c. † Ibid., p. 30.

‡ Ibid., p. 32. Dr. Kröger, of Hamburgh, says, in reply to my inquiries on this subject, that imperfect establishments existed as early as 1680 in Gotha, Wesel, and Brunswick, and as early as 1701 at Königsberg.

§ Das Volk Schulwesen in den Preuss. Staaten, &c., von Dr. Johann Ferdinand Neigebaur, 1834. Neigebaur's Collection of Decrees, &c., relating to Common Schools, &c., 1834, p. 1.

have more than two children above five years of age, by the payment of the fees of all over this number from a school fund.* A rescript of 1738 constitutes the clergy the inspectors of schools.†

An attempt to provide more precisely, by law, for the regulation of the schools in Berlin, was made by a decree of 1738. This decree requires that teachers shall be regularly examined by the inspectors of schools, before being allowed to teach, and prescribes their acquirements in detail. It directs the opening and closing of the schools with prayers; fixes the hours of daily attendance at from eight to eleven or seven to ten in the morning, and one to three in the afternoon; prescribes instruction in spelling, reading, writing, arithmetic, and singing, and regulates the emoluments and perquisites of the master.‡

A new impulse was given to public instruction under the reign of Frederick the Great. The regulations drawn up by Hecker,§ and approved by the king (1763), are very precise, and though they have been in part superseded by later decrees, many of their provisions are still in force. They provide for the selection of school-books by the consistory; that children shall be sent to school at five years of age, and be kept there until thirteen or fourteen, or until they have made satisfactory attainments in reading and writing, in the knowledge of Christian doctrine, and of such matters as are to be found in their text-books; fix the school hours, requiring six hours a-day of instruction in winter, and three in summer, and one hour of catechetical instruction, besides the Sunday teaching; require that all unmarried persons of the parish shall attend the hour of instruction in the catechism, and besides, receive lessons in reading and writing from the Bible. The regulations provide anew for the school-masters' fees, and for the instruction of poor children; require that the school-master shall be furnished from the church register with a list of all the children of the age to attend school,

* Das Volk Schulwesen in den Preuss. Staaten, &c., von Dr. Johann Ferdinand Neigebaur, 1834. Neigebaur's Collection of Decrees, &c., relating to Common Schools, &c., 1834, p. 1, &c.

† Ibid. p. 3.

‡ Beckedorff's Annual, vol. ii., p. 32.

§ Ibid., p. 36.

and that he shall prepare a list of those who are actually in attendance, and submit both to the clergyman, in his periodical visits; direct anew the examination of candidates for the situation of school-master, and refer particularly to the advantages of the seminary opened at Berlin for preparing teachers for the Mark of Brandenburg; lay down minutely the scheme of elementary instruction, and actually specify the time to be devoted to the different branches with each of the two classes composing the school;* require the parochial clergy to visit the schools twice a week, and inspectors of circles to perform the same service at least once a year.

The decree of Frederick regulating the Catholic schools of Silesia (1765), is even more particular than the foregoing. It shows the settled policy in regard to educating teachers in special seminaries, now so important a part of the Prussian system, by setting apart certain schools by name for this purpose, requiring the appointment of a director to each, and assigning his duties.†

In 1787 Frederick William the Second created a council of instruction, under the title of an "Upper School Board," (Ober Schul-Collegium,) of which the minister of state was president. This council was directed to examine text-books, and to pass upon the licenses of masters, on the reports of the provincial school boards. They were authorized to erect seminaries for teachers at the government expense, and to frame their regulations; to send out an inspector from their body to examine any part of public instruction, and to rectify all wrongs by a direct order, or through the school boards of the provinces, the school-committees, or patrons.‡ This organization remained substantially in force until the separation of the departments of state and instruction in 1817, with the creation of a ministry of public instruction.

* Neigebaur of 1834, p. 5, &c.

† Ibid. p. 18. This decree contains the remarkable sentence, "The gentry, as well as the common people, must not consider or treat the teacher as a *servant*, but as an *officer*, whose duty it is to form good tenants for landlords, and children for parents."

‡ Becktedorff's Annual, vol. ii., p. 45.

The attributes of this upper school board, it will be seen, now belong to that council.

The school plan of 1763 was modified by an ordinance of 1794, which introduces geography and natural history in the elementary schools, and refers to vocal music as one of their most important exercises; it also attempts, by minute prescriptions, to introduce uniformity in the methods of instruction and discipline.* The regulation for the catholic schools of Silesia was also revised in 1801.†

Having now brought this chronological account to the beginning of our century, and shown that many provisions of weight originated previous to this period, I proceed, according to the purpose already explained, to leave the chronological order, and to give a view of the more important regulations now in force, appending to them the date of their enactment. These dates, with the foregoing, show, that while the separation of the ministry of public instruction from that of the state, in 1817, no doubt gave a new impulse to the present system, and was an important change in administration, it was by no means the beginning of a new system. This division, in fact, resulted from the effects of the earlier provisions of the system itself, and especially of the seminaries for teachers. As early as 1806, a measure of great consequence was adopted, that of sending teachers to the school of Pestalozzi and others; many, also, went at their own expense; and thus improved methods were distributed over the kingdom and over Germany in general.‡

The authorities which administer public instruction in Prussia are the following: The chief authority is the minister, who joins to this supervision that of ecclesiastical and medical affairs.§

* Neigebaur of 1834, p. 71, &c., No. 29. † Ibid., No. 8, p. 41, &c.

‡ Dr. Kröger gives me the names of several men now high in the duties of public instruction, (Kawerau, Hoffman, Hiensch, Kunze, Plomann,) which fully bear out my assertion. Letter of 22d May, 1838. Dr. K. was also one of these teachers.

§ Cabinet order of November 3, 1817. Frederick William the Third. (Neigebaur, 1834, p. 186, &c.) The duties of the section of public instruction and religious affairs of the state council were already defined in 1810. (Neigebaur, p. 177, &c.)

He is assisted by a council consisting of a variable number of members, and divided into three sections corresponding to the three charges of the minister. The section for public instruction has its president and secretary, and meets usually twice a week for the transaction of business. One of this body is generally deputed as extraordinary inspector in cases requiring examination, and reports to the minister.* The kingdom of Prussia is divided into ten provinces, each of which has its governor, styled Superior President, (Ober-President,) who is assisted by a council called a Consistory, (Consistorium.)† This council has functions in the province similar to those of the ministerial council in the kingdom at large, and has direct control of secondary public instruction, and of the schools for the education of primary teachers.‡ It is subdivided into two sections, of which one has charge of the primary instruction in the province,§ under the title of the School Board, (Provincial Schul-Collegium.) The school board, in addition to exercising the general supervision of education in the province, examines the statutes and regulations of the schools, insures the execution of existing laws and regulations, examines text books, and gives permission for their introduction after having obtained the approbation of the ministry. This Board communicates with the higher authorities through their president, to whom the reports from the next lower authority, to be presently spoken of, are addressed, and by whom, when these relate to school matters, they are referred to the Board for examination.‖

The next smaller political division to a province is called a Regency, (Regierungs-Bezirk,) which is again subdivided into Circles, (Kreisen,) and those into Parishes, (Gemeinden.) The chief civil authority in the regency is a president, who is assisted by a council called also a regency.

This body is divided into three sections, having charge respectively of the internal affairs, of direct taxes, and of church

* Beckedorff's Annual, vol. ii., p. 86. † Neigebaur, 1834, p. 179.

‡ Neigebaur of 1834. Instructions for Provincial School Boards, October 23, 1817, p. 179. Cousin, Public Instruction in Prussia, p. 20, American edition.

§ Neigebaur of 1834, p. 188–9. ‖ Ibid., p. 179, &c.

and school matters.* The last named committee examines and appoints all the teachers of elementary and burgher schools within the regency, superintends the schools, ascertains that the school-houses and churches are duly kept in order, administers the funds of schools and churches, or superintends the administration when vested in corporations, and collects the church and school fees.† This committee is presided over by a member of the regency called a School-councillor, (Schulrath.) As councillor, he has a seat and voice in the provincial consistory, where he is required to appear at least once a year, and to report upon their affairs in his regency, of which the provincial consistory has the superintendence.‡ It is also his duty to visit the schools, and to satisfy himself that they are in good condition.

The next school authority is the inspector of a circle, who has charge of several parishes.§ These inspectors are generally clergymen, while the school-councillors are laymen. Next below the special superintendents is the immediate authority, namely, the school-committee, (Schul-Vorstand.) Each parish (Gemeinde) must, by law, have its school, except in special cases,‖ and each school its committee of superintendence, (Schul-Vorstand,) consisting of the curate, the local magistrate, and from two to four notables; the constitution of the committee varying somewhat with the character of the school, whether endowed, entirely supported by the parish, in part by the province or state, or by subscription. The committee appoints a school-inspector, who is usually the clergyman of the parish.¶ In cities, the magistrates form the school-committee or school-deputation, as it is there called, the curates still acting as local inspectors.

* Neigebaur of 1834, Instructions of 31st December, 1825, p. 189.

† Ibid., Instruction for the Regencies, October, 1817, p. 183, &c.

‡ Ibid., Ordinance of 1815, p. 179.

§ School Regulations, Neigebaur of 1834, p. 5, &c., No. 6.

‖ Neigebaur of 1826. Order, &c., June, 1820, p. 181, and previous decrees, all pointing to the same result.

¶ Neigebaur of 1834. Cabinet Order of 1812, p. 195.

Thus there is a regular series of authorities, from the master of the school up to the minister, and every part of primary instruction is entirely within the control of an impulse from the central government, and takes its direction according to the will of the highest authorities. With such a system, under a despotic government, it is obvious that the provisions of any law may be successfully enforced.

The cardinal provisions of the school system of Prussia are:

*First.* That all children between the ages of seven and fourteen years shall go regularly to school.* This is enforced by the school-committees, who are furnished with lists of the children who should attend, and of those actually in the schools under their charge, and who are required to enforce the penalties of the law.

*Second.* That each parish shall, in general, have an elementary school. When the inhabitants are of different religious persuasions,† each denomination has its school, and if not, provision is made for the religious instruction of the children by

* Royal Prussian General Regulations for the Schools of the Country. (Neigebaur of 1826, p. 126.) Five years is named as the period for beginning school, but seven is that when the police regulations render the attendance obligatory. See also Neigebaur of 1834. Cabinet Order of 1825, p. 64. M. Cousin calculates the number of children between the ages of seven and fourteen in Prussia, in 1831, at 2,043,030, and shows, from the returns of the number of pupils in the different primary schools, that 2,021,421 were in actual attendance, leaving but 21,609 to be accounted for by the children educated in private schools, at home, and in the lower classes of the gymnasia. The latter, in 1832, amounted to 17,935. (Cousin's Report, Amer. Edit. p. 311). Nearly one-sixth of the entire population of the kingdom would thus appear to be in the schools. The ratio, however, varies exceedingly in different parts of the kingdom; in the provinces of Saxony, Silesia, and Brandenburg, the proportion was, in 1831, higher than one-sixth, while, in the Rhenish provinces, it was one-seventh, and in Posen, as low as one-eleventh. (Kröger's Appendix to his Transl. of Cousin, p. 213.) The number is swelled to that stated above, the sixth of the entire population, by the introduction into the account of children under seven years of age: the pupils of the infant-schools, the work-schools, orphan asylums, &c., being included under the head of those who are in the elementary schools.

† This is easy of accomplishment, as since the union of the Lutherans and Calvinists to form the Evangelical church, there are but two divisions, Protestants and Roman Catholics.

their own pastors. The erection of the school-house, its furniture, the income of the master, and aid to poor scholars, are all provided for. The requisite sum comes, in part, from parochial funds, and in part from a tax upon house-holders. When the parish is poor, it is assisted by the circle, by the province, and even by the state. Besides these elementary schools, most of the towns in Prussia have one or more upper primary or burgher schools.*

*Third.* The education of teachers in seminaries,† adapted to the grade of instruction to which they intend devoting themselves. Their exemption during their term of study from active military service required of other citizens. A provision for their support during their term of study. A preference given to them over school-masters not similarly educated. Their examination previous to receiving a certificate of capacity, which entitles them to become candidates for any vacant post in the province where they have been examined. Their subsequent exemption from active military service, and even from the annual drill of the militia, if they cannot, in the opinion of the school-inspector, be spared from their duties. Provision for the removal of the incompetent or immoral. A provision for the support of decayed teachers.

*Fourth.* The authorities which regulate the schools and render them a branch of the general government, and the teachers in fact its officers. In a country like Prussia, this connexion secures to the teacher the respect due to his station, and thus facilitates the discharge of his important duties. It gives the government, however, almost unlimited control over the schools, securing that no principles shall be disseminated in them which are not in accordance with the wishes of the central authority, and even providing for the propagation among the people of those in which it may desire them to be educated.

* In 1833 there were eight hundred and twenty-eight burgher schools in Prussia. (Kröger's Appendix to his Transl. of Cousin.)

† In 1833 there were forty-three such seminaries in Prussia, attended by two thousand and thirty-six pupils, and furnishing nearly eight hundred teachers annually.

Having thus completed a brief sketch of the system of public instruction, I proceed, according to the division made in the beginning of this chapter, to describe some of the individual schools. It will be seen that the subjects of popular instruction are excellent in themselves, and that the methods of teaching are in general the most improved. Prussia has certainly set a noble example in this respect. It is true that the government has provided that the incidentals of instruction, which exert so strong an influence on the mind, shall all tend to educate the people in sentiments of attachment to the existing order of things, but they would have been untrue to their political system had they not done so, and this fact, instead of leading to a rejection of the experience of their schools by nations more advanced in the true principles of government, should stimulate them to a like care in their systems of education.*

As already stated, the primary schools of Prussia are of two kinds, the elementary, and the burgher or middle school. The first is not an introduction to the second, as might be supposed by its name, but is intended for such children as are to receive an elementary education, only remaining at school until thirteen or fourteen years of age. These schools in the cities and large towns educate the poor, and are frequently designated as poor or charity-schools, (Armen-schulen.) The others are intended for children whose parents can dispense with their services until fifteen or sixteen. Their pupils generally become artisans or shopkeepers.

There are, in fact, two grades of burgher schools, of which the higher, usually found in the cities, besides preparing its pupils as just stated, enables them to enter the third class of the

* It is frequently a question what results have been derived from this much vaunted system. What has been the effect upon the people? To answer this accurately would require a long residence in the country; to have known its state in past years, and to estimate accurately the causes of any observed changes. It is a most difficult question, and I do not pretend to give my results as an answer, but merely to bear testimony to the superior intellectual and moral condition of this people to others of the same race, in circumstances otherwise somewhat similar, but less favoured by education. It is impossible to judge of the results which would be produced in a country where the press is free, by those of Prussia.

grammar school or gymnasium. The instruction in them is altogether better than that in the elementary schools, which latter, as far as I saw them, were inferior to those of Holland. The lower burgher schools, on the contrary, afford an elevated standard of true primary instruction, and Prussia has special reason to be proud of the whole class.

Uniformity of instruction throughout this kingdom would no doubt be practicable in a general sense, by means of the system already described. There is, indeed, at present, a close approach to uniformity of spirit in the schools and in the subjects taught. Very wisely, however, the methods of teaching are not prescribed, and though a common sentiment among the directors of the seminaries for teachers, produces an approximation to uniformity of method among the younger masters, yet even among these there is some diversity of opinion and action. When we speak, then, of uniformity in the Prussian schools, it must be understood with great limitations, or we give a theoretical view of what might be, instead of a practical one of what is.

## PUBLIC ELEMENTARY SCHOOLS OF BERLIN.

The Prussian system admits of so much license in its minor arrangements, that the elementary schools of Berlin, as at present established, vary from the parochial system in use in the kingdom at large, resulting from a plan proposed to the regency by School-counsellor Reichelen, and adopted in 1827. There are at present nine public elementary schools in the city, but if the classes were confined to seventy-five pupils each, as originally intended, fourteen schools would be required, according to the calculations of Mr. Reichelen. The number of pupils, however, in charge of a single master, is greater than that just stated, thereby impairing essentially the efficiency of the schools.

The masters receive fixed salaries,* the fees which they

* The salary of the head master of both boys' and girls' schools is two hundred and twenty-five dollars per annum, besides which he has his lodging and certain allowances, amounting to from seventy-five to a hundred and twelve dol-

collect being paid over to the school-committee. Of the two schools of this kind at Berlin which I visited, one came up to the requirements of the law in the branches of instruction, except in the omission of linear drawing. In the other, both drawing and natural history were omitted. In the first, the branches were: 1. Religious instruction. 2. Reading. 3. German language. 4. The geography and history of Prussia. 5. Arithmetic. 6. Elements of geometry. 7. Weights and measures of the country. 8. Natural history. 9. Writing. 10. Singing. In none of these schools is the physical education of the pupils attended to. In each there is a girls' school, separated from that of the boys', and giving similar instruction, except that a portion of the time is occupied in works appropriate to the sex.

According to rule, these schools should have two classes for each sex, the head master teaching the first, and the assistant the second; in one, however, the two classes were subdivided, forming four. The lowest class learns to read and write a little, and is then promoted. In the school of two classes, the lower contained pupils from six to nine and even ten years of age, and the upper class pupils from eight and nine to twelve and thirteen years. This division is much inferior to that of the school for the poor at the Hague, which I have already described; it requires the union in one class of pupils in very different stages of progress, and renders simultaneous teaching almost out of the question. The lower class has twenty-six, and the upper thirty-two to thirty-four hours of instruction per week, the former having one hour less per day than the latter, which is a good arrangement. There is a short interval of recess in the morning exercises. 1. The religious instruction consists, in all the schools, of Bible history, catechism, and reading the Bible. The schools are for Protestants, and the Lutheran Catechism is used. 2. The reading is taught by the phonic method, already described at length under the head of

lars. The pupils pay at the minimum three, and at the maximum thirty cents per month. In one of the schools which I visited, the fees amounted in all to about nine dollars and seventy-five cents per month, the two-fifths of which, forming the master's perquisite, amounted, therefore, to about forty-seven dollars a year.

primary instruction in Holland. In many schools the reading-board and letter-blocks are used; in one of those which I visited, writing was taught with reading. Exercises of thought and speech are interwoven with the elements of reading. The reading-books* are various, and combine progressive instruction in this branch with incidental information in morals, the history of the country, history of the church and of sects, biography, geography, natural history and elementary physics, grammar, &c. This incidental method is, however, far from giving sufficient instruction, unless combined with the direct, though, by keeping it in view, the exercises in reading are prevented from degenerating into mere lessons of sounds. From the books which are allowed by the highest school authorities to be used, the committee of any particular school, after consulting the master, adopt such as they please, and when the teacher wishes a change, he applies to the same authority. The list of approved books is always sufficiently large to admit of the exercise of the individual judgments of the master and committee. The analysis of words and sentences is attended to in these schools, and exercises of induction are practised, especially where younger masters from the teachers' seminaries are employed. As the method of teaching depends principally upon the master, it sometimes varies even in the same school. If the precise routine were laid down, the spirit would be different, and thus, at last, it is the kind of education given to the teacher which determines the character of the school. It may be stated, however, that the instruction is either simultaneous or individual. 3. The German requires no special remark; it includes instruction in grammar. 4. The geography is taught by beginning with an outline of general geography, referring to maps, and learning from books. There is

* Hempel's "Common School Friend," which I found in use in the schools, appears to me, in general, to be a good compilation, though the ideas of history which it gives are very limited. The statements in regard to North America are, besides, of a kind to lead the child to suppose that the country is still peopled by red men, who are without the institutions of the old world, which are enumerated, to show the superior advantages of civilized over savage life.

a great deficiency in the implements for teaching this branch. 5. Both mental and written arithmetic are taught. In one of the schools, the ground-work is laid according to Pestalozzi's method, and the extent of the course is to the single rule of three, inclusive. Some of the pupils acquire great facility in mental arithmetic, but I have seen better results in this branch in the English schools. 6. The geometry consists of the elements of form, according to Pestalozzi. 7. The weights and measures are taught as in our schools, by committing tables to memory, and not, as in Holland, by actual reference to the standards themselves. 9. The writing is taught by copying from ordinary copy-boards, first on the slate, then on paper. The black-board is used in some cases. Writing from dictation is resorted to for orthography. The proficiency in this branch is, however, only tolerable. 10. Vocal music is taught by note, and particular attention is paid to church music. The school is begun and ended with a psalm or hymn, as well as with prayer.

The ordinary discipline is conducted without corporal punishment, though it is allowed in extreme cases. The individuals of the classes retain the same places, unless in cases of gross neglect, or as a kind of punishment. These places are in some schools regulated in the upper classes by a writing-lesson at the end of the month, in which correctness in spelling as well as neatness of handwriting are taken into the account.

The arrangements of the school-houses in Berlin, both interior and exterior, have undergone considerable change of late years. The eighth town-school is in a very neat building, and the rooms are commodious, and provided with raised platforms for the benches and desks; all those, however, occupied by the larger classes are defective in ventilation.*

* The number of children in Berlin requiring nearly or quite gratuitous instruction was reckoned, in 1827, at four thousand five hundred. These are supposed to be gathered principally in the nine school-houses now erected. One of those which I visited contained six hundred children. It is intended to increase the number of houses, so as to prevent such an accumulation in any one, three hundred being the number calculated for each school.

These schools are reasonably good, and if they were in a country less celebrated for the character of its public instruction than Prussia, would not call for special remark, but they can by no means be held up as having attained all that is possible, or even that is required, in establishments of the kind.

In addition to these charity schools, each of which is common to both sexes, there are nine schools of industry (Erwerb-schulen) for girls; in these the pupils work, receiving a small compensation, besides instruction in the rudiments. There are also evening schools, at which the attendance is voluntary, and where those who have gone through the elementary courses may revise or extend their knowledge.*

### BURGHER OR MIDDLE SCHOOLS.

These are the higher primary schools already referred to. They owe their superiority over the others not only to the greater variety of subjects of instruction, and to the greater extent to which they are carried, but to various minor advantages. Among the first of these may be stated the greater number of classes, admitting of a nearer equality in the knowledge of the pupils, and hence of more efficient instruction. The number of regular classes in these schools is usually from four to six, and in the others only two. Next, the number of pupils under the charge of one teacher is less than in the elementary schools, which is attended with the same effect as just stated, especially where individual teaching is attempted, in connexion with the simultaneous method. In the whole kingdom

* The number of elementary schools, public and private, in Berlin, is given in the census of 1831 at 117, and the pupils in attendance at 13,131. Of burgher-schools 80, attended by 7,210 pupils, making 197 primary schools, attended by 20,341 pupils. Adding 750, the probable number in the lower classes of the gymnasia and real schools, we have 21,091 children between the ages of seven and fourteen in the schools. The number of children in Berlin between the ages of one day and fourteen years is reported in the same census to be 67,709. Admitting that three-sevenths of them are between seven and fourteen years, we have 29,019 children, who, according to law, should be in the schools. There is, therefore, an unexplained deficiency in the capital of nearly 8000. These numbers are taken from the table given in the Supplement to M. Cousin's Report, American edition.

of Prussia, in 1831, the average number of pupils to one instructor in the elementary schools, was seventy-seven, and in the burgher schools, thirty-seven, or less than half the former number. Again, the higher salaries paid in these schools secures to them, in general, advantages in the choice of teachers not possessed by the others, which frequently must be entrusted to inferior abilities or experience. There is, further, no doubt, as far as observation may be trusted, that the grade of intelligence of the children in the burgher schools is higher than in the others, their opportunities of domestic culture and the incentives to exertion are greater, and the intercourse of home is usually more improving. All these, and perhaps other causes, tend to widen the interval between these classes of schools. The connecting link between the higher burgher and the elementary schools of the cities, is afforded by the burgher schools of the smaller towns, sometimes called lower burgher schools. Both divisions educate the same classes of individuals, but the wants, both material and intellectual, of the tradesman of the small town and of the city are very different, and the instruction to which they aspire differs essentially. The village tradesman of Prussia is satisfied to be able to read and write German, and to cast accounts, while the city tradesman of the same class must be better informed in these, and add a knowledge of French and some mathematics to his elementary acquirements. Besides, the higher burgher schools are made to serve as preparatory establishments for the gymnasia, and the plan of instruction is modified accordingly, being in the higher classes so far changed as almost to remove them from the sphere of legitimate primary instruction. It is the lower class of these schools which appears to me to afford a suitable standard for the primary grade, in regard to the nature, extent, and methods of instruction, and the classification in general of the school. Divesting the higher schools of certain features which do not appear essential, they afford excellent models, upon which it would not be too much to ask that the primary schools should be arranged, or to the standard of which they should endeavour to attain. Postponing further

remark on this subject until some of the individual schools have been described, I proceed to an account of the seminary school at Weissenfels, belonging to the lower burgher school class, and of three higher burgher schools, presenting varieties of the same grade of establishment, namely, the Dorothean higher city school, and the seminary school of Berlin, and the higher burgher school of Potsdam. I have selected these as characteristic specimens of the best schools of the kind which I visited, and they are all which my limits will permit me to present.

## SEMINARY SCHOOL AT WEISSENFELS.

This is a higher elementary, or lower burgher school, attached to the seminary for teachers at Weissenfels, and is under the charge of the director of the seminary.* The school is intended not only for the benefit of the citizens of Weissenfels, but also as a model school, in which the pupils of the seminary may reduce to practice, under the eye of their teachers, the lessons of theory in the art of teaching, which forms an important part of the course of the seminary.

The school has four hundred pupils, male and female. They are divided into five classes, in the three lower of which the two sexes receive instruction in common, being separated in the highest. Each class averages thus eighty under the charge of one master, who is, however, assisted by the pupils of the seminary. The following table shows the subjects of instruction, and the amount of time devoted to each. The whole course usually lasts seven years, when the pupil enters at the age of six or seven.

* Dr. Harnisch, one of the most highly esteemed teachers of Germany, to whom I am indebted for a MS. account of his seminary, and other valuable documents, besides a kind welcome. Dr. H. does not consider his school a true burgher school, (see his work, Die Deutsche Bürgerschule,) but I speak of things as they exist, and with names as commonly applied. This school was placed under its present director in 1822, when the normal school was re-organized. The pupils of the highest class pay but two dollars and seven-five cents per year for tuition.

Table of the distribution of time in the "Seminary School" at Weissenfels.

| SUBJECTS OF INSTRUCTION. | NO. OF HOURS PER WEEK. | | | | |
|---|---|---|---|---|---|
| | Boys' Class. | First Class. | Second Class. | Third Class. | Total.* |
| Religious Instruction, | 6 | 5 | 4 | 4 | 34 |
| German Language, | 4 | 3 | 3 | 1 | 21 |
| Reading, | 2 | 4 | 5 | 3† | 25 |
| Inductive Exercises, | | | | 1 | 1 |
| Arithmetic, | 4 | 4 | 4 | 4 | 28 |
| Geometry, | 3 | | | | 6 |
| Geog., Hist., Nat. Hist., &c., | 3 | 2 | 3 | 1 | 17 |
| Writing, | 3 | 4 | 4 | 8‡ | 30 |
| Drawing, | 2 | 2 | 1 | 1 | 11 |
| Singing, | 3 | 2 | 2 | 3 | 17 |
| Total, | 30 | 26 | 26 | 26 | |

The *religious instruction* consists in the narration of Bible stories and in pointing out the appropriate moral; in Bible history in a more connected form; in learning Luther's Catechism, and committing parts of the Bible to memory. The pupils are also expected to give an account of the Sunday's

* This column is calculated on the supposition that the pupil remains in the school from six until thirteen years of age, passing through the lowest class in one year, and each of the others in two years.

† As the instruction in writing and reading is combined, I have placed half of the number of hours under each head.

‡ Of these eight hours three are combined reading and writing, and two copying.

sermon. The study of *German* includes the grammar. There are exercises specially of orthography and syntax in the upper classes. Poetry is also committed to memory.

The elements of *reading and writing* are taught together, according to Dr. Harnisch's method, already described as in use at Halle. In the upper classes the reading-lessons are intended not only to give fluency in the art of reading, but also incidental instruction in grammar and general knowledge.

Direct exercises of *induction* are in use only in the lowest class.

The instruction in *arithmetic* extends through fractions: mental arithmetic preceding written through all the rules. That of *geometry* consists merely of the elements of form, according to Pestalozzi.

Under *geography* and *history* are included both physical and political geography and biography. With the physical geography is interwoven an account of the productions of nature and art of different countries. In the summer the pupils are made acquainted with the botany of the environs, and in winter receive lessons upon animals, &c.

*Writing* on paper is a matter of privilege attainable by those who improve sufficiently. The others write on slates. The first lessons in *drawing* are introductory to writing; afterwards it is made a separate branch.

The higher classes learn *music* by note, and sing twice a week in company with the pupils of the normal school. The violin is used in leading the class singing exercises.

The discipline and instruction are admirable. The teachers have little occasion to use punishment. The instruction is chiefly given viva voce, and the pupils in general appear interested in their studies. A book is kept for the record of delinquencies, which is examined by one of the superior masters once a week, and notice taken of the faults recorded. The director examines it once a month, and admonishes those who need it. Corporal punishment is resorted to only in extreme cases.

According to the views of director Harnisch, as to what a

true burgher school should be, the pupils who have gone through the courses of this school are just fit to enter one, and I must express my entire approbation of thus making the elementary school merely a step in the general course of education, and one which leads to further advance.

The schools next to be described will be found to vary very considerably in their arrangements from this one, forming the opposite extreme, as it were, of the class, but a connecting link will be supplied by the burgher school of Potsdam, which is intended to cover the ground occupied by both divisions.

### DOROTHEAN HIGHER CITY SCHOOL.

This is a burgher school of recent establishment, which I was recommended to visit as one of the best in Berlin.* The city has recently erected a very neat and commodious building† for it in the Dorothean quarter of the town, from which the school takes its name. The pupils are admitted at six years of age, and may remain until sixteen, when they are prepared to enter a business life. If intended for a professional career, they pass from the second class to the third of a gymnasium or grammar school at about fourteen. At present there is no first class, but this deficiency is to be supplied, and it is intended that a pupil of capacity, who has passed through its studies, shall be prepared for the second class of a gymnasium. In this case private lessons in Greek must be taken, and I should judge that, when established, this class will be composed only of those who intend to finish their education here, so as to pass to a "real school," or to some "technical school." Many pupils are actually prepared here for entrance into the third class of a gymnasium, and the courses have been in part adapted to this purpose. The certificate of the first class of this school, as of others of its grade, gives the privilege of claiming but one year of military service, and qualifies for em-

* It is under the charge of Mr. Zinnow, a most intelligent and devoted teacher.

† The cost of the building was stated to have been 25,000 thalers, ($18,750.)

ployments in the government bureaux, which, however, do not require, in general, a knowledge of Latin.

The school* now consists of five classes, of which the sixth and fifth, the lowest two, have courses of one year each, and the others of two years. There is a head master and four regular teachers, besides four assistants or special masters, who are employed during part of the school hours, or in teaching particular subjects. In the lower classes each master teaches, in general, the whole round of subjects in which his class is occupied. In the upper classes, the teachers are confined to a few subjects. The arrangement of this matter is, however, at the discretion of the director, or head master, who varies it as appears best for the interests of the school.† In some of the classes there is a special master for religious instruction, which, however, is not usual in Prussia.

The methods of instruction in this school are, in general, most excellent, and I was particularly struck with the small number of text-books employed.‡ This is not peculiar, however, to this establishment, but is a feature in every good school in Germany. The master is expected to be so fully imbued with his subject, and expert in his art, as to be able to impart knowledge principally orally to his pupils, and in such a way as to adapt it to each individual; hence books are chiefly required for study at home, and individual training is possible to an extent which no routine system with books would permit.

* At the date of my visit in December, 1837, the school numbered one hundred and ninety-seven pupils. The fees were nearly five dollars per quarter, but it was intended to reduce them to less than four dollars. Should these at any time not prove adequate to the support of the school, the city must supply the deficiency.

† The masters are appointed by the school-committee, on the nomination of the head master.

‡ I annex the list, as presenting this fact in a striking point of view. There are but ten text-books, exclusive of those for teaching Latin, used in the six classes. Baedecker's Primer, Diesterweg's Reading Book for Schools, Erk's School Songs, the Bible, Luther's Catechism, Church Songs, Schulze's Latin Grammar, Drogan "Materials," Roquette's French Grammar, Gedicke's Latin Reading Book, Schulze's Latin Exercises, Cornelius Nepos, Florian's Numa Pompilius, Ovid's Metamorphoses, Diesterweg's Practical Arithmetic, Zinnow's Geometry, Dielitz's Historical Tables.

The following statements give the course of instruction in detail. Leaving out some of the subjects as unnecessary for elementary instruction, I can see no reason why a very similar programme should not be adopted in the lower schools, the period of instruction being nearly the same in the two cases.* The difference between the instruction in a Berlin charity school and in a burgher school like this, is at present very great indeed.

RELIGIOUS INSTRUCTION.

Class VI. Stories from the Old Testament.
Class V. Stories from the New Testament.
Class IV. Bible History.
Class III. Reading and explanation of selections from the Scriptures.
Class II. The Evidences of Christianity.

The stories alluded to in the course of the sixth and fifth classes are the most remarkable biographies of the Old and New Testaments. The stories are chiefly narrated by the teacher, frequently in the words used in the sacred volume; and in the fourth class these same histories are read in the Bible itself. The narrations in the lower classes admit of various explanatory remarks and illustrations of the history, the natural history, and geography referred to. The subject of the narrative being thus familiar to the pupil, he is interested by the beautiful simplicity of the language of the Bible, which otherwise he might fail to perceive, since his attention would be engaged with the incidents about which he was reading, rather than with the style. The study of the Evidences of Christianity would, it seems to me, be more suitable to the age of the first than of the second class.

GERMAN LANGUAGE.

Class VI. Exercises of speech and thought (inductive exercises). Preparatory exercises in reading by the phonic (lautir) method. Fluent reading of words and sentences.
Class V. The most important parts of etymology explained by reading lessons. Exercises of orthography.

* The expense I do not consider a reasonable objection, for if the people have a right to instruction, they should be well taught.

Class IV. Exercises of etymology. Reading from a text-book. Stories narrated for written exercises. Orthographical exercises.

Class III. Grammatical analysis of sentences.

Class II. The same continued. Original written exercises and descriptions.

The exercises of speech and thought are admirably conducted. In teaching to read, the letter-box and composition-board, similar to that which I have already described in the chapter on the schools of Holland, are used. The lowest class is divided into two sections in receiving this instruction, so that each teacher has not more than twenty-five pupils under his charge. The reading exercises throughout the course will be found included under the title of "German." Diesterweg's Reading Book for Schools is used in the lower classes.

LATIN LANGUAGE.

Class IV. Regular verbs and other parts of speech. Translation of Gedicke's Reading Book.

Class III. Constructions varying from the German. More difficult parts of Gedicke's Reading Book. Cornelius Nepos.

Class II. Irregular parts of etymology. Syntax. Special reference to the differences from the German. Ovid.

Although the Latin is begun with the fourth class, it will be seen hereafter that it occupies but a small portion of the time of each week, and as far as mental culture is concerned to those who leave off this study at fourteen, I cannot say that observation indicated its utility. On the contrary, an imperfect knowledge is acquired, which can produce no good effect.

FRENCH LANGUAGE.

Class V. Exercises in reading and translating small sentences.

Class IV. Auxiliary and regular verbs. Exercises on simple sentences.

Class III. Irregular verbs and rules on the use of pronouns. Numa Pompilius begun.

Class II. More difficult parts of the French Grammar. Numa Pompilius completed.

ARITHMETIC.

Class VI. The four ground rules, with numbers up to one thousand.

Class V. Denominate numbers and preparatory exercises in fractions.

Class IV. Fractions.

Class III. Proportions, with their applications.
Class II. Elements of Algebra, Involution, and Evolution.

The course of arithmetic, as taught in the seminary school, of which I shall next give an account, is, I think, better arranged than this.

GEOMETRY.

Class V. Regular figures, &c. from the Elements of Geometry.
Class IV. Lines, angles, and triangles.
Class III. Circles and polygons. Mensuration of plane figures.
Class II. Similarity of figures, &c.

The geometry is here introduced earlier than in the seminary school, and, in general, the studies of the fifth class appear to me rather too much diversified for their age.

NATURAL HISTORY.

Class IV. Domestic animals.
Class III. Viviparous animals.
Class II. Birds and fishes, illustrated by a small collection.

Physics is also taught in the second class, so far as to give a knowledge of the general properties of bodies.

GEOGRAPHY.

Class V. Knowledge of home. The district. The province. The kingdom.
Class IV. General geography.
Class III. Principal countries of Europe.
Class II. Europe more in particular.

The knowledge of home includes an account of its history, its monuments, distinguished men, &c. The course follows, in general, the plan already so often spoken of, and more particularly described in the schools of Halle and Haarlem.

HISTORY.

Class IV. A general view of the more important historical events, with the study of particular ones in detail.
Class III. Ancient history.
Class II. Modern history, to the time of the Reformation.

The general history is rather a series of biographical sketches than a regular narration of events, and serves well as an introduction to systematic historical studies.

WRITING.

Class VI. Preparatory exercises in the lower division. Letters and words in the upper.
Class V. Single letters and small sentences.
Class IV. Writing from copy-slips.
Class III. Writing, with special reference to orthography.

The elements of writing are taught according to Pestalozzi's method, the upper and lower limits of the letters being given by horizontal, and the slope by inclined lines. In regard to this branch it may be remarked, that very few schools which I visited did not present a satisfactory proficiency.

DRAWING.

Class VI. Preparatory exercises. Regular figures.
Class V. Drawing of bodies in elevation.
Class IV. Solids bounded by plane figures and straight lines.
Class III. Solids bounded by plane figures and straight lines, with shadows.
Class II. Solids bounded by curved surfaces.

The method of instruction is that devised by Mr. P. Schmidt, which I shall describe more particularly when speaking of one of the so called "real schools" of Berlin, where he is teacher.

SINGING is taught by ear in the two lower classes, and by note in the upper. The execution by the second class, which I heard, was excellent. They sing in parts, and by note.

The following table shows the time devoted, in school, during the week by each class to the several subjects of instruction:—

Arrangement of the branches of instruction at the Dorothean Higher City School.

| SUBJECTS OF STUDY. | HOURS PER WEEK. | | | | | |
|---|---|---|---|---|---|---|
| | Second Class. | Third Class. | Fourth Class. | Fifth Class. | Sixth Class. | Totals§ |
| Religious instruction, | 2 | 2 | 2 | 2 | 4 | 18 |
| German Language, | 4 | 3 | 5 | 8 | 10* | 42 |
| Latin, | 5 | 6 | 4 | | | 30 |
| French, | 4 | 4 | 4 | 2 | | 26 |
| Arithmetic, | 3 | 3 | 3 | 4 | 4 | 26 |
| Geometry, | 2 | 2 | 2 | 2 | | 14 |
| Natural History, | 4† | 2 | 2 | | | 16 |
| Geography, | 2 | 2 | 2 | 1‡ | | 13 |
| History, | 2 | 2 | 2 | 1‡ | | 13 |
| Writing, | | 2 | 2 | 4 | 4 | 16 |
| Drawing, | 2 | 2 | 2 | 2 | 2 | 16 |
| Singing, | 2 | 2 | 2 | 2 | 2 | 16 |
| Total, | 32 | 32 | 32 | 28 | 26 | |

The three higher classes have, as shown by the table just given, six hours of recitation every day except Wednesday

* Six hours of the instruction, called "German," are devoted in the sixth class to learning to read, and four to "Exercises of speech and thought."

† Two hours of this instruction is given to physics.

‡ In the fifth class, geography and history are combined under the title of "Knowledge of home."

§ This column is obtained by doubling the numbers in those classes of which the course is for two years, and adding the numbers for the other classes.

and Saturday, which are half-holidays, and on which they have but four hours. The lowest class has but five hours for four days in the week, and three the other two. The increase of school hours in the upper classes is manifestly a proper arrangement.

This distribution of time assigns to language, including German, Latin, and French, ninety-eight hours; to sciences and the kindred branches, namely, arithmetic, geometry, natural history, geography, and history, eighty-two; to the branches which specially educate a part of the senses, while they have important applications in after life, as writing, drawing, and singing, forty-eight hours, and to morals and religion, eighteen hours. Similar tabular statements will be furnished for the other schools of this class, by which numerical comparisons may be instituted.

## SEMINARY SCHOOL OF BERLIN.

This is a burgher or middle school, founded in 1832, and attached to the Teacher's Seminary of Berlin,* taking its name from this connexion. The school is for boys only, and, like other higher burgher schools, it serves to prepare for the the third class of a gymnasium, as well as for entrance into active life. The same teachers give instruction in this school and in the seminary, being assisted here by the pupils of the seminary, to whom this serves as a school of practice. There are four regular teachers, besides the director, and also masters for drawing and singing.

The pupils are admitted as early as five and six years of age. The time of year for general admission is Easter. There are six classes in the school, the lower four of which each retain the pupil, if industrious and intelligent, a year, and the two upper, each two years. The whole course thus lasts eight years. Fifteen is, however, the usual age at which those who do not pass to the gymnasium leave the school. The average number of pupils in each class is thirty.†

* Of which Dr. Diesterweg is director.

† The school fees for the four lower classes are three dollars and seventy-five

Every month there is a private examination, in presence of all the teachers, at which the parents may attend. Every three months the pupil receives a note of progress and conduct, to be handed to his parents. Formerly a printed circular was sent, containing information in the form of an abstract from the account kept of recitations and conduct. It has been found, however, much more effectual to give a written statement of the character of the pupil, derived from the school journal, inasmuch as it insures more certainly the attention of parents. At Easter a public examination is held, and those who have made a proper proficiency in their studies are passed to a higher class.

Arrangements exist by which those pupils whose parents desire it, may study under the superintendence of a teacher,* during the time considered necessary for the preparation of the lessons of their class. The following division of the studies of the school is made by the director.

1. Religious Instruction. Bible history. History of the Church and of the Reformation. Protestant Catechism.

2. Languages. (*a*) German. Fluency in reading, and readiness in answering questions. Capability of writing an exercise upon an ordinary subject. Grammar of the language. (*b*) Latin. Orthography, etymology, and the elements of syntax. Translation of an easy Latin author (Cornelius Nepos) into German, or of an easy German author into Latin. (*c*) French. Knowledge of the grammar. Facility in the translation of easy authors, and in writing compositions.

3. Sciences. (*a*) Arithmetic. Mental and written. Positive and negative quantities. Involution and evolution. (*b*) Geometry. Plane geometry, with practical applications. (*c*) Natural history. Knowledge of the most important minerals and plants of the neighbourhood. General outline of zoology and anthropology. (*d*) Geography, physical and mathematical. (*e*) History. Outlines of universal history. History of the country.

4. Mechanical Acquirements. (*a*) Reading. (*b*) A good handwriting. (*c*) Draughts of models, furniture, &c. (*d*) Singing.

It will be found, subsequently, that I have taken reading out

cents per quarter, and for the two higher classes four dollars and fifty cents per quarter, besides a charge of one dollar twelve and a-half cents for fuel during the winter.

* The fee for private study is four dollars and fifty cents per quarter.

of this class, and placed it beside the German language, to which it is subsidiary, and where it is classed in the preceding school.

In regard to the methods of carrying out this course, the following rules are laid down,* and after carefully visiting the school, I can testify that they are fully observed. Indeed, this is one of the most interesting establishments which I saw, from the liveliness and activity which prevails in its classes.

The principle of induction is used, as far as practicable, in all branches: thus, in the earlier exercises, an object is presented to the pupil, who is led to notice its peculiarities, and to express his conceptions of them. He passes from objects which are known, and even familiar, to the unknown. Unknown objects are illustrated, if possible, by models, and the names of the parts are taught, and their uses or properties examined. The pupil proceeds first from particulars to generals. Subsequently, the order is reversed. He is made to understand whatever he is required to remember; to find out for himself, if possible, rather than to be taught directly.

Historical and similar subjects are taught by lecture, mingled with questions. The pupil is led to express himself readily and correctly; the teacher speaks no more, therefore, than is absolutely necessary for explanation, or to induce suitable answers. Self-exertion, on the part of the pupil, is constantly encouraged. He is taught to observe whatever is interesting. Imitation of what is seen, and repetition of what is heard, lead to original thought. This, however, is to be expected only from pupils of talent, and hence the teacher must be satisfied to allow some to learn what others have found out. The common mistakes of overburthening the mind with positive knowledge, and of too much system in teaching, are

* I give merely an abstract of the views of Dr. Diesterweg, as suited to the limits of my Report. Dr. Diesterweg is one of the most enlightened practical teachers of Germany. He was formerly director of the normal school at Moers, in the Rhenish provinces, and was transferred from that post to the seminary at Berlin. He is the editor of the Pedagogical Journal, the Rhine sheets for education and instruction. (Rheinische Blätter für Erziehung und Unterricht.)

to be avoided, as both are injurious to mental development. The teacher must be able to make his subject interesting, and, therefore, should know how to communicate it without a book, and to elicit the knowledge of his pupil by proper questions. It is the mental activity of the pupil which will determine the measure of his success in after life; and hence this activity, rather than positive knowledge, should be looked to as the object of the instruction at school.

In regard to this last named principle, although I consider it applicable, in a great degree, in elementary education, yet it appears to me that exception must be made of the cases of pupils who intend to enter active life on leaving the school, and to whom, therefore, the knowledge which they will have immediate occasion to use, should be imparted, to render their education effective. In general, where the mind may be cultivated by different studies, choice should be made of those most likely to be applied by the individual in his future career, especially if his education is necessarily to terminate before he can have time to master the complete circle.

I proceed to give a detailed account of the arrangement of the studies, following it by such remarks as to the methods pursued in the particular branches as may appear necessary, and by a comparison of the courses with those of the Dorothean school.

RELIGIOUS INSTRUCTION.

Class VI. Four hours per week. Narration by the teacher of stories from the Old Testament, in the words of the Bible, repeated by the pupils. Easy verses learned by heart.

Class V. Four hours. Stories from the gospels, except the latter portion of the Life of Christ. Church songs and Bible verses learned.

Class IV. Three hours. The Old Testament in a more connected form. The moral of the history is impressed upon the children. The Ten Commandments and church songs committed to memory.

Class III. Two hours. The life and doctrines of Christ, to the period of his imprisonment. Church history. Four weeks are set apart for learning the geography of Palestine.

Class II. Two hours. The Protestant Catechism committed to memory and explained. Church songs and verses committed.

Class I. Two hours. A compendium of the history of the Christian Church, particularly after the Apostolic age. History of the Reformation. Review of the Bible. Committing to memory psalms and hymns, continued.

GERMAN LANGUAGE.

Class VI. Four hours. Exercises of speech. Stories narrated to the children and repeated by them. After learning to write, these stories are written upon the slate.

Class V. Four hours. Exercises in orthography. Etymology begun.

Class IV. Four hours. Exercises in orthography and style. Every week a short composition is written on some subject which has been narrated.

Class III. Grammar continued.

Class II. Four hours. Original compositions, which are corrected during the recitation. Syntax commenced.

Class I. Three hours. Compositions on historical subjects. Essays written at home and corrected in the class-room. Syntax continued.

LATIN LANGUAGE.

Class IV. Three hours. Declensions of nouns, adjectives, and pronouns learned. Examples learned by heart, and others written as an exercise at home. Auxiliary verbs conjugated.

Class III. Four hours. Comparison of adjectives. Regular verbs conjugated.

Class II. Four hours. Irregular verbs. Syntax begun. Translation from Latin into German.

Class I. Six hours. Grammar continued. Written exercises at home and in the class. Every four weeks an extempore exercise is written, which the teachers correct out of school hours. Cornelius Nepos read and construed.

FRENCH LANGUAGE.

Class III. Three hours. Exercises in reading. Elements of grammar. Words learned by heart. Easy exercises written at home and in school hours.

Class II. Four hours. Regular and irregular verbs learned. Syntax. Translations from French into German. Words learned by rote.

Class I. Four hours. Written exercises of increased difficulty. Tables dictated and learned by heart. Voltaire's Charles XII. read.

ARITHMETIC.

Class VI. Four hours. Practical Arithmetic. The fundamental operations taught with numbers from one to one hundred; first mentally, then with blocks, and afterwards with figures. Exercises prepared at home twice a week.

Class V. Four hours. The four ground rules continued, with numbers as high as one thousand. Exercises in reading and writing large numbers. Mental arithmetic especially practised. Addition and subtraction of abstract numbers.

Class IV. Four hours. Addition and subtraction revised. Multiplication and division of abstract numbers. Weights and measures explained.

Class III. Four hours. The four ground rules, with fractions.

Class II. Three hours. Revision of the above. Rule of three.

Class I. Three hours. In the first year practical arithmetic finished. Proportions and decimal fractions. Elements of algebra. Mental algebra.

GEOMETRY.

Class IV. Two hours. The essential preparatory exercises in form, in connexion with drawing. Rudiments explained.

Class III. Two hours. Practice in the position of points, drawing of lines, angles, plane figures, representations of solids.

Class II. Two hours. Elements of geometry proper, the point, line, angles, triangles, and measures of straight lines, surfaces, and contents.

Class I. Two hours. Plane geometry completed, with practical exercises. Every alternate six months lessons in physics are given.

NATURAL HISTORY.

Class II. Two hours. In the summer term, study of certain classes of plants. In the winter term, of animals. The subject is illustrated by drawings.

Class I. Two hours. Systematic botany during the winter term, and zoology and mineralogy during the winter.

GEOGRAPHY.

Class III. Two hours. Knowledge of home. Berlin and its environs. Regency of Potsdam. Province of Brandenburg. Necessary technical terms explained, as horizontal, vertical, &c.

Class II. Two hours. Geography of Prussia and Germany.

Class I. Two hours. General geography, particularly Europe and America. Asia more generally. Africa and Australia very briefly.

HISTORY.

Class II. Two hours. View of universal history, biographical rather than chronological.

Class I. Two hours. First year universal history completed. Second year the history of Germany, and particularly of Prussia. The most important inventions and discoveries are noticed in connexion with the history of these countries.

READING.

Class VI. Seven hours. Reading by the phonic (lautir) method. Analysis of words in regard to division into syllables and sounds.

Class V. Seven hours. Mechanical reading continued, but with reference to the meaning of the words. The pupils are examined upon words, sentences, and paragraphs.

Class IV. Four hours. Explanatory reading continued. Accentuation. No piece is allowed to be read without its being understood.

Class III. Two hours. Rythmical reading begun. Interesting portions of the matter read, narrated by the pupils in their own words.

Class II. Two hours. Rythmical reading continued.

Class I. Two hours. Reading of some of the German classics. Analysis of the subject read.

WRITING.

Class VI. Five hours. Introductory exercises of drawing upon the slate. Copying the small letters from the black-board. Writing on paper. Capital letters. Written exercises at home twice a week.

Class V. Five hours. Writing of German characters continued. Roman letters begun. Copying from a book at home, with special reference to orthography.

Class IV. Four hours. Writing in German and Roman characters continued. Two hours copying from copy-slips. Two hours writing from dictation.

Class III. Three hours. Exercises of Class IV. continued. Pupils who write well are allowed to write without lines. Writing without copies, according to progress.

Class II. Two hours. Exercises continued. Most of the pupils write without lines or by directing points merely.

Class I. The written exercises in other departments are examined, to ascertain the character of the handwriting. No special lessons are given.

DRAWING.

Class IV. Two hours. Drawing straight lines in various directions and of various lengths. Making definite angles. Drawing triangles, squares, and other rectilinear figures.

Class III. Two hours. Drawing of circles and ovals.

Class II. Two hours. Drawing of bodies bounded by planes and straight lines in perspective. Drawing of curves.

Class I. Drawing from natural objects, from plaster casts, and models.

SINGING.

Class IV. Two hours suffice to learn fifteen or twenty songs, of one or two verses, by note, and some ten choral songs.

Class III. Two hours. Songs with two parts continued. Chorals with one voice.

Class II. Two hours. Songs with two or three voices continued.

Class I. Two hours. Songs and chorals with three or four parts.

Once during the morning there is an interval for recreation in the court-yard of the school, and the pupils are directed in their exercises of marching and counter-marching, and the like, by one of the teachers.

The course marked out in the foregoing programme, as far as it extends, seems to me well adapted to educate the moral and intellectual faculties, as well as the senses; to give mental vigour, while it furnishes information useful to the pupil in after life.

There are peculiarities in regard to the religious instruction, even as intended for Protestants, which may be remarked in the fifth and third classes, the object of which I do not understand. In other respects, when sectarian instruction may be given, as in this school, where all the pupils are of one denomination, the course appears to be good. The manner of communicating the instruction by conversation and lectures, used in both this and the Dorothean school, renders it very effective. There are in all the classes, taken together, twenty-two hours per week devoted to religious instruction here, and eighteen in the other, but the programme does not show a gain in the amount of knowledge communicated.

The course in the mother tongue is fully explained in the programme, and is well adapted to produce fluency and accuracy of expression in conversation and writing. Both this and the foregoing course extend, as they should, through all the classes.

The Latin language is introduced with a view to preparation for a gymnasium, to the nomenclature of natural history, the business of the chemist and druggist, and perhaps, to use the language of an accomplished teacher in one of the higher town schools, "because such always has been the custom." I would give the preference to the course of this school over

that of the other, considering the time of twenty-seven hours devoted to it more appropriate than of thirty, as in the other.

The French, besides combining with the German and Latin to give the due proportion of intellectual culture from language, is introductory to the courses in the real schools, which are parallel with the gymnasia, and prepare for the polytechnic or other special schools, as the latter do for the university. It is practically useful, too, to the shopkeeper and tradesman of the continent of Europe, and was, probably, formerly more so than at present. The Latin language is begun in the fourth class, or at about eight years of age, and the French language in the third class, but neither occupy more than three hours a week, until a year afterwards. These languages occupy fifty-six hours in the Dorothean school, and forty-seven in this, per week, during the entire period through which they are taught.

Nothing can be better than the foundation laid for arithmetic. The pupils are engaged a year in practical arithmetic before they are introduced to a knowledge of abstract numbers. Habits of thought are given by simple exercises in mental arithmetic. The eye is enlisted to aid the mind by computing with cubes, according to the method already described in the schools of Holland. Written arithmetic relieves the mental exertion, aids the memory, and trains the hand. The course is then carried on, combining mental and written arithmetic, and reaching algebra, which is also, in part, taught mentally. The text-book of arithmetic is a very useful treatise, by Dr. Diesterweg and Mr. Heuser.* I liked the course in this school altogether better than that in the other, where, however, in the older classes, the same text-book is used.

The course of geometry begins with ideas of form, in connexion with drawing, according to Pestalozzi's method, which it follows in general. It is thus a powerful means of stimulating the mind, and, though the time occupied is greater than if the subject were taught in the ordinary way, the results are much more satisfactory. If there is latent mathematical talent

* This work has gone through ten editions.

in a pupil, his powers of invention cannot fail to be drawn out by this method.

Natural history is not left to incidental instruction, to be derived from the reading-book, but is directly taught in the last two years. I had not the opportunity of judging of the fruits of this instruction in the seminary school itself, but the pupils of the seminary were pursuing the subject with zeal. In comparing this course with that of the other school, I think it preferable, except in the omission, at the beginning, of an account of the domestic animals. There will be, I doubt not, great improvements in teaching this branch at a future day. At present, the plan is hardly formed, and the collections for illustration, where they exist at all, are, in general, quite small. There is, besides, a tendency to make the course too strictly scientific.

The system of instruction in geography is that already minutely described in the school at Haarlem and at Halle. It is begun in the third class, or at nine years of age, with a description of home. History, which in its elements is combined with geography, takes a separate place in the second class. The practice of giving biographical sketches instead of mere chronological details, cannot be too much commended. The pupil learns with interest the events of the lives of men who have made an impression upon the age in which they lived: these events form an outline which is easily fixed in the mind, and may subsequently be filled up in detail. Again, the discussions of inventions and discoveries in art or science afford relief from the descriptions of battles and revolutions, and serve to show the influence of genius exerted in civil life.

The phonic method of teaching to read, wants only the use of words having a meaning, as in Mr. Wood's system, to be nearly perfect. No reading is allowed, however, without understanding not only the words, but their connexion, and the ideas conveyed by the sentences. The habit of thus giving paraphrases of subjects, leads to facility of expression, and by combining this with copying from good models, a correct style is formed. The course of reading of the highest class, includes selections from the German classics. Introductory exercises in drawing

precede the instruction in writing; these might, I have no doubt, be much further extended with advantage.* A good handwriting is produced by the succession of exercises described in the programme. The course of drawing, which is commenced as a distinct branch in the fourth class, is intended to enable the pupil to sketch correctly, and with facility, such objects of furniture, machinery, &c., as he may have occasion to represent in his occupations in after life. The addition of two hours of drawing in the fifth class, as in the Dorothean school, would seem to me not to overburthen the class with work, while it would add materially to their proficiency in this useful branch.

Singing is successfully taught, and by note. It is considered an indispensable branch of instruction, and all my convictions are in its favour, whether as a means of developing moral sentiment, or of physical education. Singing by ear might, however, very well begin in the lower classes, and for this purpose the number of hours of instruction per week might be increased from twenty-four to twenty-six in the lowest, and twenty-eight in the fifth class. This would make the number of hours for these classes the same as in the Dorothean school.

The time allotted to the different studies will appear better by the annexed table. In regard to the ages of the pupils, inserted in the heading of the columns, it is to be understood that they are those of intelligent and industrious boys, entering at six years, and going regularly through the classes. As in the former tables, the subjects of instruction are placed in the first column, the number of hours per week occupied by the several classes in the following ones, and the total number of hours devoted to each subject, while in the school, in the last column. In forming this total, the number of hours occupied by the four lower classes, the course in each of which is of one year, is reckoned once; and the number of hours of the two upper classes, each course occupying two years, is doubled.

* As has been done for the elements of an English hand, by our countryman, Mr. Rembrandt Peale, in his admirable System of Graphics. The forms of the German letters would require a different system.

**Table of distribution of time in the Royal Seminary School of Berlin.**

| SUBJECTS OF INSTRUCTION. | NUMBER OF HOURS PER WEEK. | | | | | | |
|---|---|---|---|---|---|---|---|
| | First Class. 12 yrs. 13 yrs. | Second Class. 10 yrs. 11 yrs. | Third Class. 9 years of age. | Fourth Class. 8 years of age. | Fifth Class. 7 years of age. | Sixth Class. 6 years of age. | Totals. |
| Religious Instruction, | 2 | 2 | 3 | 3 | 4 | 4 | 22 |
| German Language, | 3 | 3 | 4 | 4 | 4 | 3 | 27 |
| Reading, | 2 | 2 | 3 | 5 | 8 | 7 | 31 |
| Latin Language, | 6 | 4 | 4 | 3 | | | 27 |
| French Language, | 4 | 4 | 4 | | | | 20 |
| Arithmetic, | 3 | 3 | 3 | 4 | 4* | 5 | 28 |
| Geometry, | 2 | 2 | 2 | | | | 10 |
| Natural History, | 2 | 2 | | | | | 8 |
| Geography, | 2 | 2 | 2 | | | | 10 |
| History, | 2 | 2 | | | | | 8 |
| Writing, | | 2 | 3 | 3 | 4 | 5 | 19 |
| Drawing, | 2 | 2 | 2 | 2 | | | 12 |
| Singing, | 2 | 2 | 2 | 2 | | | 12 |

cannot be estimated by the time devoted to them; the intrinsic difficulties of acquisition, the different periods of the course at which they are introduced, and various other causes, prevent comparisons of this sort. Not only so, but the time occupied in the same subjects in different schools, which might be thought to afford an accurate test of comparative progress in them, cannot, in reality, be employed for this purpose, without at the same time carefully studying the programmes, to ascertain how the time is applied in each class, and the manner in which it is distributed among the several classes. The two higher city schools just described, afford conclusive evidence of this fact. There can be no doubt, I think, that the Dorothean school is the stronger in language, and the seminary school in science. Such is the general reputation of the two, and such is the tone which the director of each would be likely to give to the school under his charge. The impression which I derived from visiting the two establishments was to the same effect. The number of hours per week devoted to language in all the classes of the two schools is, however, ninety-eight for the first, and one hundred and five for the second, and to science, eighty-two for the former and sixty-four for the latter; leading, in both cases, to the reverse of the conclusion just stated. If differences in the arrangement of studies, in the power of the teachers, in the methods and implements of instruction, and even in the pupils themselves, may lead to such results, small differences in the proportion of time allotted to different branches should not, without carefully checking their results by other comparisons, be assumed to indicate corresponding differences in the value of the courses.

In following the course of studies of these two schools, it will be seen that those of the lowest class, in each, are almost identical. In the next, the seminary school has greatly the advantage in the compactness of arrangement, by which the attention of the pupil is confined to fewer subjects. No less than ten branches are introduced into the programme of this class in the Dorothean school, while there are but five in the seminary school. The scientific branches, except those which

run through all the years, are introduced later in the latter school, which is in accordance with the principle of concentrating the attention on a few subjects, where it is possible. It appears to me that, in general, it is not proper to introduce these branches early, except as matters of incidental instruction. The separation of the programmes of the two schools, produced as just stated, renders it difficult briefly to compare the courses of the same class in each. A general comparison of the subjects shows that the German language is taught according to the same plan in each, and that the highest class attains the same level in each, as far as the grammar is concerned; much more attention, however, is paid in the seminary school to the reading courses, as well for the acquisition of reading as an art, and to cultivate a taste for it, as for the incidental knowledge to be communicated. Nearly one-fourth of the pupil's time, in the school just named, is devoted to the vernacular. The Latin is begun in the same class in both schools, but the course in the Dorothean school at once takes the lead of the other, and keeps it throughout. The French begins in the fifth class in one school, and in the third in the other; and, though the programmes terminate at about the same point, there is a greater proficiency made in the Dorothean school. One object, if not the principal one, of learning this language being to speak it, the early commencement is an advantage. In a general comparison of progress in language, the Dorothean school, as already stated, ranks higher than the other.

The courses of arithmetic are different, but terminate at the same level; I have already mentioned my preference for the course of the seminary. Geometry is begun in the fifth class in the Dorothean, and in the fourth in the seminary school; the courses go on together for three classes, and extend further in the latter institution. The differences in the courses of natural history have already been the subject of remark. The course of geography is essentially the same, differing only in the age of the pupil at beginning. History is begun in the fourth class of the Dorothean, and in the second in the seminary school: it is more systematic in the former, and assumes more

the form of biography in the latter: the range of the two courses does not differ essentially. Taking these branches, classed as scientific, together, the superiority is with the seminary school, and thus, in both this and the former case, the judgment which would have been pronounced by referring to the numbers merely, is reversed.

## HIGHER BURGHER SCHOOL OF POTSDAM.

This school* differs from those already described in several particulars, exemplifying, in its arrangements, the division into lower and higher burgher schools, and carrying the courses of the latter decidedly into the domain of secondary instruction. Its principal objects are to prepare children of both sexes for occupations connected with, or corresponding to, the lower trades, and boys for the higher mechanical occupations, as builders, architects, &c., or for admission into the trade school connected with the Government, Mechanics', or Trade Institute at Berlin,† and for the gymnasium. This school thus supplies instruction of different grades; first, elementary instruction of a higher kind; second, that usually given in the "real schools" of Prussia, and third, that necessary for entrance into the higher classes of a gymnasium, or grammar school. Hence its studies embrace many subjects and stages of progress which properly belong to secondary instruction, and even to a greater degree than other higher burgher schools.

The pupils pursue a course common to all in the three lower classes, or from about six to eleven or twelve years of age, when a separation takes place. Those who are to leave school at thirteen or fourteen, pass into the "middle burgher school class," in which the study of Latin and French is dropped, and the time is devoted to religious instruction, German, mathematics, geography and history, the elements of natural history, technology and physics, writing, drawing, and vocal music. Those pupils who are preparing for a higher class of a gym-

* Under the charge of director Löffler.

† This excellent institution will be hereafter particularly described.

nasium, or who intend to pursue the entire course here, pass from the third class to the "second burgher school class." These arrangements appear to meet the wants of the citizens of Potsdam, for, in 1837, forty-two pupils passed from the third class to the middle burgher school class, and forty-one to the second class of the higher school.

Pupils preparing for the sixth class of a gymnasium leave this school in the "second elementary class," or at about nine or ten years of age, and those who aim at the third class of a gymnasium, usually pass from this at the close of the course of the second class in the higher school. The first, or upper class, thus contains only those pupils who intend to enter into active business life on leaving the school, or to enter a special school of arts and trades. On this account, the branches of science which are immediately applicable to such objects, are introduced into the course. This class consisted, in 1837, of ten pupils. The complete course is usually gone through at or before sixteen years of age, and entitles the pupil to claim one year of voluntary military service, instead of the three regular years, and qualifies him for appointment in the government bureaux.

The six boys' and three girls' classes have twelve ordinary teachers, besides one assistant, and two female teachers. Each of the lower classes has but one teacher, who attends to all the subjects as in the other schools already described. The total number of pupils was, in 1837, four hundred and fifty-six, of whom three hundred and twenty-three were boys.

The usual system of change of place in the classes is employed to excite emulation, and discipline is mainly conducted by means of a black-book, in which a pupil's name is entered at the end of the week or month, when he has had a certain number of faults per week or per month marked against him by the teacher. Marks of merit are allowed to cancel those of demerit. The entry is communicated to the pupil's comrades, and also to his parents. As far as I have been able to judge of these and similar systems of discipline in day schools, I have not found any marked good effects from them. If a teacher is

competent, he keeps up good discipline without them, and if he is not, they are of little or no service to him. In this remark I do not mean to include communications to parents, which are frequently of the greatest utility. The following plan, which apparently bears some analogy to this, but which owes its efficacy to a different principle, is in successful operation in Dr. Mayo's excellent boarding-school at Cheam, in Surrey, England. When a pupil proves insensible to the admonitions of the teacher, and is frequently reported for offences or negligence, he is required to show to the principal a written statement of character from each master after every hour. He is thus subjected to admonition or other punishment from the principal immediately after committing an offence. For this very strict supervision, one extending over a day or week is substituted when improvement manifests itself, or when the case does not require so great severity.

I propose now to give a statement of the courses of the burgher school at Potsdam, and of the time required for their completion, with remarks and comparisons with the schools already described.

The annexed plan of the distribution of time gives also a list of the subjects of instruction; it is arranged exactly like the similar ones already presented. The first two columns of figures on the left hand refer to the number of hours of study per week in the two classes of the higher school. The third contains those of the middle burgher school class, the pupils in which terminate their course here. The next three contain the hours of study of the elementary classes, which are common to the whole school.

**Table of the distribution of time of the Higher Burgher School of Potsdam.**

| SUBJECTS OF INSTRUCTION. | First or Upper Burgher School Class. 14 and 15 years of age. | Second Burgher School Class. 13 and 13 years of age. | Middle Burgher School or Upper Class. 12 and 13 years of age. | First Elementary Class. 10 and 11 years of age. | Second Elementary Class. 8 and 9 years of age. | Third Elementary Class. 6 and 7 years of age. | Totals. |
|---|---|---|---|---|---|---|---|
| Religious Instruction, | 2 | 2 | 2 | 3 | 3 | 2 | 24 |
| German Language, | 3 | 3 | 6 | 5* | 5* | 6† | 44 |
| Reading, | | | 3 | 3 | 4 | 6 | 26 |
| Latin, | 6 | 6 | | 4 | 4 | | 40 |
| French, | 4 | 4 | 4 | 2 | 1 | | 22 |
| Arithmetic, | 3 | 3 | 2 | 4 | 4 | 4 | 36 |
| Geometry, | 2 | 2 | 2 | 1† | 2§ | 2§ | 18 |
| Natural History, | | 2 | 2 | 2 | 2 | 2 | 16 |
| Geography, | 2 | 2 | 2 | 2 | 1 | | 14 |
| History, | 2 | 2 | 2 | 1 | | | 10 |
| Technology, | 2 | | | | | | 4 |
| Physics, | 2 | 2 | 2 | | | | 8 |
| Chemistry, | 4 | | | | | | 8 |
| Writing, | 2 | 2 | 3 | 3 | 3 | 4 | 28 |

Besides the branches taught in the burgher schools already described, we have in this one technology, physics, and chemistry, and the number of hours attached to them in the foregoing table shows that they are actually taught to a considerable extent. These subjects are introduced, and at the same time the amount of study in the languages is increased, requiring an undue degree of labour of the classes, and dividing their attention among too many subjects. Thirty-eight hours of attendance on school per week is certainly too much to require.

*Latin* is begun in the second elementary class, where the first rudiments of grammar are learned, and easy sentences translated. This course is continued in the next class. Those who intend to leave the school in the middle burgher school class, may be excused from attending the Latin lessons in the first.

The second class of the higher school read Cornelius Nepos, and the first Cæsar and Ovid. Their proficiency did not, however, seem to me to correspond at all with the number of hours devoted to this branch, viz. forty. The object of this instruction, for those who do not go to the gymnasium, is stated to be to enable them to pursue the science necessary to their callings, without embarrassment from the terms. I am of opinion that, in such a case, the system pursued in Mr. Wood's school, applied to learning the etymology of compound Latin words, and of the German words derived from the Latin, would answer the end better, with a less consumption of time; and if Latin is to be retained, the number of hours devoted to it in the Dorothean school (thirty), or in the seminary school (twenty-seven), seem much better suited to the object in view. I am induced to what may seem a tedious discussion of these programmes, because they afford different examples of primary instruction—the grade with which our college must begin, and we cannot examine too carefully the subjects which should compose it, nor draw too largely upon experience in the details of arrangement.

*French.* This course does not differ materially from those already given. Telemachus is used as a text-book. The time appropriated to the language appears sufficient, without being burthensome. Both the Latin and French being commenced

in the second elementary class, which contains pupils who intend to leave school at the end of the "middle burgher school class year," it may be supposed that this time is thrown away, as very little proficiency can be made in so short a period; the force of this objection is, however, somewhat diminished by the fact, that the arrangement gives an opportunity for the development of a disposition for language which may warrant a change in the destination of the pupil.

In *arithmetic*, the lowest class is employed mainly in the mental exercises. After they have learned to make figures, they prepare written examples at home. In the next class, written arithmetic is combined with mental. The four ground rules are learned with abstract and concrete numbers. Preparatory exercises in fractions are taught. The first elementary class proceed as far as to include fractions, and a part of the class study proportions. The middle burgher school class pass on to decimal fractions and the square and cube root. The second burgher school class have their attention in these same parts of arithmetic directed to the technical applications, and besides, begin algebra, and proceed as far as simple equations. The first burgher school class extend their course of algebra through equations of the second and third degrees, progressions, and logarithms. Mercantile arithmetic also forms part of their course. These latter subjects, however, can in no wise be considered as belonging to primary instruction.

*Geometry.* Preparatory exercises of form, after the method of Pestalozzi, are taught in the elementary classes, and the higher ones proceed through the elements of geometry, and include mensuration and plane trigonometry. The head master has arranged, for the benefit of his pupils, a course containing the most important elements, and teaches also by lectures, which the pupils are required to write out. The time allotted to this subject is nearly double that of the seminary school, and I saw some reason to doubt the propriety of beginning the elementary exercises so early.

*Knowledge of nature and art.* The introduction to this subject, taught in the lowest two classes, is drawn from natural

history, physical geography, and physics, and is made the means of inductive exercise. The recitations and conversation lectures which I heard, evidently interested the pupils, while they cultivated habits of reflection and observation. They are parallel with the lessons on objects of the English schools, being, however, more extended. The more systematic course of natural history of the higher classes, is like that of the seminary school. In summer the pupils make occasional excursions into the country, for practical exercise in this branch, under charge of a teacher: these excursions, if rightly improved, may be made also the means of cultivating proper relations between the pupil and teacher, but they are liable to abuse, and should be carefully attended to, in order to prevent such results. This school possesses a good collection of plates of natural history,* and has the use of the museum of the trade school, which is under its roof.

The course of *technology*, intended to give a knowledge of the principal arts and their processes, lies open to the objection already urged, on the score of overburthening the pupils with work. Such knowledge, as well as that of physics and chemistry, would be of service in after life, but I do not see the possibility of teaching it, except in a mere outline, in a short course, and the time allotted appears to contemplate something more.

*Geography.* This course is begun with physical geography. The natural and artificial divisions of the world follow. Then the physical and political geograply of Europe is taken up. The course of the upper or middle burgher school class terminates with that of Germany, and especially of the Mark of Brandenburgh, and with a review of the whole. The second burgher school class has the same course with the middle class. The first takes up mathematical geography, and reviews physical geography more minutely, adding a knowledge of the climate, productions, commerce, manufactures, &c. of the countries studied. Maps are drawn, as an exercise, at home. This

* By Fisher of Breslaw.

geographical course, which attaches every other part of the information to physical geography, appeared to me next in its success to the inductive plan already described. It is much facilitated by the use of raised maps, on which the natural features of the country strike the eye more forcibly than on a common map, where, if the physical details are given, the names and positions of the places, the boundaries, &c. are obscured by them.

The course of *history*, in the lower classes, is like that in the other schools. In the middle class the subject is reviewed, and the history of Germany, and especially that of Prussia, and of the Mark of Brandenburgh is studied. The second higher burgher school class is taught an outline of ancient history, of that of the middle ages, and of later times, and then proceeds to the history of Germany and of Brandenburgh. In the first class, the history of Germany, and of modern Europe in general, is continued.

In the *mechanical branches*, the distribution of time agrees with that in the other schools, except in the number of hours allotted to writing, which is here twenty-eight, and in the Dorothean school but sixteen. *Vocal music* is taught by ear in the lower classes, and by note in the upper.

*Physical education.* There is an interval of a quarter of an hour in the middle of the morning, during which the pupils are free to take exercise, but there is no regular gymnastic or other exercise under the superintendence of the teachers.

### GENERAL REMARKS.

It is clear, from the foregoing examples of schools usually considered as belonging to the same class, that any general law requiring exact uniformity in all, would not meet the wants of the people, the varieties having been framed to meet these wants.

Accordingly, the project of 1819,* which contains a particular course for the burgher school, has not been adopted, and

* Report of M. Cousin, Amer. Edit., pp. 56, 57.

though the Royal Cabinet Order of September, 1829,* refers to improvements in the burgher schools generally, as recommended to the attention of the minister of public instruction, I am not aware that any steps have been taken to produce a more systematic arrangement of the class.†

It is obvious, also, from what has been presented, that the elementary instruction requires raising to a higher level than at present, namely, to that of which an example has been given in the higher elementary school of Weissenfels. That then all pupils whose circumstances permit them to devote a longer time to education should pass to other schools, of a kind depending upon their destination in after life, as determined by the circumstances of their parents and their own talents. The tone of these higher schools would, it appears, require to be varied according to the wants of the population among which they are placed, whether that of the country, of small towns, or of cities. In the cities, it has been seen that one class of burgher schools required is provided, and others will be described belonging more properly to a higher grade of instruction, upon the province of which, however, these latter decidedly trench. An example of a systematic arrangement appropriate to a city is afforded by the burgher school of Leipsic, presently to be described. Such a plan would, however, be inappropriate to a small town, where, of necessity, several schools must be united in one. In this case, it would require care to avoid the union of incompatible classes of pupils, causing mutual losses of time, and giving rise to defective habits of study. The same teachers should give instruction in the different departments of the school, in the same or kindred subjects, rather than to unite different classes. The pupil preparing for the gymnasium should not be called upon to study the natural sciences or mathematics which he will pursue there, and of which he does not feel the want for admission, nor the student who is to enter

* Allgemeine Schul Zeitung, Abth. 1, Num. 9, quoted by Dr. Harnisch, "Die Deutsche Bürgerschule," p. 99.

† See also Harnisch "Die Deutsche Bürgerschule," page 101.

an architectural, commercial, or trade school, the classics which the gymnasial student requires for his admission.

When there are equally good means for the cultivation of the faculties, it is clear that the destination of the individual should regulate those which are to be applied to his case. As this destination usually only appears as the pupil advances in age and intellectual development, many different classes must necessarily be kept together during the elementary period. Subsequently, when a separation in the character of the studies becomes expedient, it should, at first, be gradual, to give opportunity for the transfer of a pupil from one line to another, and, finally, be entirely determined by the nature of the future occupation. Mental discipline is, doubtless, the chief object of the first periods of education, but if it be attainable by the acquisition of knowledge directly applicable to the pursuits in life, such an advantage is by no means to be neglected. If there were but one method for a thorough culture of mind, still, when time is allowed for only a partial application of that method, it might be expedient to adopt inferior means, which would produce a result complete in itself, with the advantage that the knowledge used to train the mental powers is also directly applicable to the pursuits in life. Where primary education is merely to serve as an introduction to secondary, the problem is much more simple.

# CHAPTER VI.

## PRIMARY INSTRUCTION IN SAXONY.

The existing law on primary instruction dates only from 1835,* and is as yet but imperfectly carried into practice, except in the provisions which formed the law of the land, and which had grown into usage previously to the promulgation of the present system. I shall give a very brief sketch of the main features of this law, which, in essentials, differs but little from the existing decrees in Prussia. At one period of its history, Saxony was in advance of Prussia in the character of its public instruction, a distinction which it has now lost, but which it is making vigorous efforts to regain.

A number of common schools, corresponding to the wants of the people, is ensured by a division of the kingdom into school-circuits (schul-bezirke), and all the children residing in each circuit must attend the school there established for eight years, beginning at least at the age of six.† No boy can be apprenticed until after the age at which he may lawfully leave school. Congregations of different religious persuasions are allowed to establish schools in their circuit, and if no other school exists than one so established, all the children of the circuit are bound

* Law No. 60, concerning popular elementary instruction, June 6, 1835. (Gesetz das Elementar Volkschulwesen betreffend von 6ten Juni, 1835.) Also No. 61: (Dispositions relating to the law on popular elementary instruction, 9th June, 1835.) (Verordnung zum Gestetze, &c., von 9ten Juni, 1835.) These laws, with the regulations for the examination of teachers, a list of a teacher's library, and directions for the erection of school-houses, are collected in one volume, by Dr. G. L. Schulze, under the title "Das Elementar-volksschulgesetz fur die Königlich Sachsischen Land, &c., mit Inhaltsübersichten, verschiedenen anmerkungen and erläuterungen und einen volständigsten register, &c.

† There is attached to each school a person whose duty it is to ascertain the causes of the absence of pupils, and who is entitled to a small fee from the parents for each call he makes upon them.

to attend it; they are not, however, required to take part in the religious instruction.

Every school circuit must furnish a school-house, and a dwelling for the teacher. Populous villages are frequently divided into several circuits. The schools are supported from funds of the church, from the interest on donations to the school-fund, from fines levied on parents who neglect to send their children to school, from a payment made to the school-fund in purchases of property, from collections, from the fees paid by the pupils, and from direct taxation. These funds are chargeable with the master's salary,* with the furniture of the school, books and slates for poor children, prizes, insurance, and incidental expenses.

According to a census in July, 1832, Saxony contained 273,535 children between the ages of six and fourteen years. Adding to this 1126,† the probable increase up to the close of 1832, we have at that period 274,661 children required to be in the schools. The census for the same period gives 274,305 in the elementary and burgher schools, leaving but 356 to be accounted for by those under private instruction, and in the lower classes of the gymnasia. At the same time there were 4397 pupils in the private schools of Dresden and Leipsic alone, besides upwards of 2400 in the lower classes of the gymnasia.‡ This excess is explained, as in the case of the Prussian schools, by the fact that children above fourteen and below six years of age are included in the number of those reported. It seems, then, that as far as the number of pupils in the schools are concerned, education in Saxony is in a highly satisfactory state.§

Each primary school contained, in 1832, at a mean, one hundred and thirty-four children, those in the country averaging

* The minimum salary is ninety dollars per annum.

† Deduced from the returns of the Statistical Society of the Kingdom of Saxony.

‡ Dr. Kröger's translation of Cousin's Report has furnished me with these numbers, or with the data for calculating them. Appendix, pp. 218, 219.

§ The number of children at school is more than one-sixth of the population of Saxony, rated at 1,445,000. The proportion exceeds that in the kingdom of Prussia.

one hundred and twelve, and each teacher had one hundred and two pupils under his charge; these facts show that the number of schools and the number of teachers both require to be multiplied, especially the latter, for in the cities, some of the school-houses can properly accommodate a large number of pupils.

Primary schools in Saxony, as in Prussia, are of two grades. In the lower, or elementary school, pupils must receive instruction, by law, in:—1st. Religion. 2d. Exercises of speech and reading. 3d. Calligraphy and orthography, with written exercises on subjects relating to the affairs of common life. 4th. Mental and written arithmetic. 5th. Singing. 6th. The most important portions of natural history, geography, and history, especially those of the country. The details of the school plan are left to the teacher and local school-inspector.

In the higher grade, or lower burgher school,* the amount taught in these branches is increased, and exercises of style, geometry, and drawing, are added.

These subjects will be recognised as the same with those of the Prussian schools. Physical education is alike left out of the general plan in both countries.

The books used in the Protestant schools are, the Bible, Luther's Catechism, the hymn book, and three reading-books, the selection of which is made by the local school-inspector. In the Roman Catholic schools, the selection of books is left to the ecclesiastical authorities.

The regular time for attendance is six hours on three days in the week, and four on two other days, making twenty-six hours per week. The vacations are regulated by the church festivals, and last about a week at a time. Children above ten years of age, in the country, are exempted, during harvest time, from attendance at school.

The punishments are chiefly addressed to the moral sentiments, but corporal chastisement, in extreme cases, is allowed.

* A systematic nomenclature for schools is yet much needed in Germany. In Dresden they apply the title of "real school" to what would be called a lower burgher school in Prussia. A normal school in Prussia is a seminary for teachers, in Austria it is a model higher elementary school.

The code of discipline is required to be placed in a conspicuous situation in the school-room.

Besides the regular day schools, there are Sunday schools, for extending or repeating the lessons learned in the former.

In order to provide the schools with qualified teachers, candidates are subjected to examination by a committee. No person can be licensed who has not attained twenty-one years of age, passed one examination as a candidate, served two years as an assistant, and passed a second examination of a higher grade. The seminaries are expected to furnish the greater number of teachers, but as yet have not been able to do so. There are six seminaries for teachers, which had, in 1832, two hundred and twenty-three pupils; or, including the preparatory seminary at Freyburg, two hundred and fifty-three. These institutions could not furnish more than between seventy and eighty teachers annually, while the primary schools require, probably, upwards of one hundred.* It is a remarkable fact, that there is no seminary for teachers in Leipsic, and that its common schools are still usually supplied with teachers from among the candidates of theology.

The authorities who have the superintendence of public instruction, beginning with the lowest, are, first, the local school committees and inspectors. These committees are composed of at least four members each, one of whom must be a clergyman. If the school has a patron, or founder, he is ex-officio a member of the committee. They make regulations for the school, holding meetings on fixed days of their own appointment. They receive from the master reports of the progress of his pupils, of their attendance at school, &c. Public semi-annual examinations take place in their presence and in that of the inspector. This latter officer is a clergyman. It is his duty to visit the school frequently, and to see that the regulations are enforced. After the semi-annual examination, he reports to the

* Calculating on the received proportion, that about four per cent. of the whole number of the teachers is required, annually, to supply vacancies.

district inspector the state of the classes. If there are schools of different religious denominations in a circuit, each denomination is entitled to its committee and inspector.

The next body is the board of inspectors, who have several schools under their charge, and to whom the local committees are subordinate. Co-ordinate with this board is the district school-inspector. The board of inspectors consists of the superintendent, an ecclesiastical functionary, of the patrons of the different schools, and of the magistracy. The superintendent is, besides, the district school-inspector. It is his duty to visit all the primary schools of his district, private as well as public, and in case they are numerous, he is allowed to name a clergyman to assist him. He has power to grant leaves of absence to teachers, and to supply temporary vacancies. He is expected to see that the teachers perform their duties faithfully, and reports upon all these matters to the higher authorities once a year.

The next higher authority is the board of directors of the circle (Kreis direction.) Saxony is divided into five circles, in each of which a board regulates the school circuits, districts, and associations. It has charge of all primary schools, and of the seminaries for primary teachers, with the general management of the property and funds of the schools, and regulates pecuniary allowances, and appoints or dismisses teachers.

The minister of public instruction and religious worship is the highest authority in school matters.

The two most important points which I visited in Saxony were Dresden* and Leipsic. In the former I examined, more or less particularly, six elementary† and three higher

* For great facilities in examining the institutions of Dresden, I am indebted to the American consul, E. F. Rivinus, Esq. I owe my thanks in connexion with these schools to town councillor Gehe and director Otto, of the normal seminary.

† There is a class of establishments corresponding to the infant schools in other places, called Bewahr-Anstalten, literally guardian institutions, which are rather nurseries than schools. The children of mothers who go out to work are well taken care of in these establishments, but there is little instruction given.

primary; and in the latter, three large elementary schools, and their admirable higher burgher school, which occupied much of my attention. The course of instruction in the charity school which I examined in Dresden, conforms in general to the directions of the law: in the afternoon, however, the pupils are occupied in manual labour, the boys in weaving straw and spinning, the girls in sewing, knitting, or spinning. It is proposed to introduce, also, into some of these schools, the art of working in wood, which consists of making of this material many beautiful articles now usually manufactured of straw.* A sedentary employment of this kind, however, should be relieved by active physical exercise, which, I regret to say, is as little attended to in these schools as in those of other countries in general. In the schools attached to the seminary for teachers, in the Frederick quarter, the number of pupils in each class is not allowed to exceed fifty in general. Much of the instruction, however, is given by the young, and comparatively unpractised, pupils of the seminary, and thus the effect of the former good arrangement, is in part neutralized. These pupils are, it must be admitted, according to my observation, usually better instructors than older teachers who have not had their advantages, though they are deficient when compared with finished theoretical and practical teachers from the same schools.

The city of Dresden owes to the society for promoting education, (Das Pädagogische Verein,) the establishment of the class of schools called district schools, (burgher schools,) in which general history, geography, geometry, French, and drawing, are added to the branches already enumerated as composing elementary instruction. The conferences of their teachers, held once a month, are of the greatest importance to their improvement, and from the activity displayed in them,

* The wood used is aspen, which, when cut in pieces, and soaked in water, becomes tough. It is cut into strips, and then these are separated into fibres of greater or less degree of fineness, according to the articles to be made. These consist of mats, bags, baskets, bonnets, blinds for windows, &c. The blinds are woven in a loom.

I doubt not they will rapidly advance in standing. In the Catholic higher primary school, instruction in Latin is furnished, in addition to the branches taught in the district schools.* It is confined, however, to the two upper classes of the five of which the school is composed, which are designated as gymnasium or grammar school classes. The principal part of the pupils leave this school in the third class.†

In Leipsic the public primary schools are of three sorts, the first for the use of the children of the poor who receive supplies from the public; the second for those who, not belonging to this class, would still be burthened by the payment of a school fee; the third, the burgher class. Many of the schools for the poor are endowed. One of them had, at the period of my visit in 1838, nine hundred pupils and fourteen teachers, some of whom received very good salaries. A second had twelve hundred pupils and twelve teachers. In this latter the pupils received instruction only during half the day, or eighteen hours per week, being divided into two sections, one attending in the morning, and the other in the afternoon. During the other half the day they were engaged, under superintendence, in the manufacture of pasteboard boxes, which are sold for the benefit of the school.

In 1832 there were fifty-one primary schools in Leipsic, instructing 16,603 children. I shall describe the burgher school in detail, as one of the most complete in its plan of organization which I have seen. This plan is not yet fully reduced to practice, and in some of the classes the want of experienced teachers renders its execution imperfect, but these imperfections are incidental to the present circumstances of the school and city, and will, under the active spirit now prevailing, be speedily changed for the better.

* The fees in all these schools are exceedingly low; in the "real school," attached to the seminary, the highest fee is three dollars and ninety cents per annum; in the Catholic high school, nine dollars per annum.

† I am indebted to the inspector of this school, the clergyman of the Court Church, (Hof-prediger,) Pater Dietrich, for very valuable introductions.

## BURGHER SCHOOL OF LEIPSIC.

This school* is designed to educate children of the middle ranks of society, and those of the upper ranks whose parents wish them to receive a public education.

It is composed: *First.* Of an *elementary school* for both boys and girls, which pupils should enter at six years of age. There are three classes, in the lowest of which the two sexes are taught in the same room. The pupils are retained, in general, a year and a-half to two years, leaving this department at eight years of age and proceeding to the next higher.

*Second.* The *burgher school* proper. Here the boys and girls receive instruction separately. There are six classes for boys, each of which occupies a year. After passing through the three lower classes, the sixth, fifth, and fourth, the pupils begin separate courses, according to their inclination or supposed destination in life. This is at about eleven years of age. Those who are intended for trades, and whose school education must finish at fourteen, to enable them to begin their apprenticeship, pass through the remaining classes, the third, second, and first of the burgher school.

Other boys who are intended to pursue higher departments of mechanical occupations, or for manufacturers, clerks, miners, foresters, stewards of estates, merchants, artists, civil officers, &c., pass into the department called the "*real school*," terminating their course there at about sixteen years of age. Others who are intended for the learned professions go at eleven to a gymnasium, pass through its classes at eighteen, and enter the university, being prepared for a profession at twenty-one.

*Third.* The "*real school*" or higher burgher school. In this there are four classes, intended to occupy together about five years, and to prepare the pupils to enter a commercial, polytechnic, architectural, or mining academy, according to his vocation. Omitting the girls' school, the scheme thus marked out will appear better by the following skeleton.

* Now under the charge of director Vogel, who has been called to Leipsic, and under whose administration this must become a most flourishing establishment. Its lower classes are already so crowded as to require division.

| Elementary School. | Burgher School. | Higher Burgher School. | |
|---|---|---|---|
| Three classes. Pupils 6 to 8 years of age. | Three classes. Pupils 8 to 11 years of age. | Three classes. Pupils 11 to 14 years of age. | The pupils are apprenticed on leaving the school. |

Or,

Real School of four classes.

Pupils 11 to 16 years of age, and pass to a *polytechnic, commercial, mining, architectural, &c. academy.*

Or,

Gymnasium (grammar school) of six classes.

Pupils 11 to 18 years of age. They pass to the *university*, where, after a course of three years, they may be admitted to one of the learned professions.

A plan at once convenient and rational is thus marked out for a youth's education, depending upon the views of his parents, their circumstances, and his own talents and dispositions. The first four named schools are united in one building, erected by the liberality of the town of Leipsic, and have the same director.

The subjects and the order of succession of the different courses are good; there is a constant reference to the ultimate object of the instruction, and no branches are inserted in the programme merely for the purpose of preparing pupils for the higher classes of other schools. It is, on the contrary, considered better that pupils should obtain access to them through the lower classes of the same school. By detaining them here, injury would be done to both schools. The primary instruction which is common to all the pupils embraces a moderate number of branches, and terminates at an age when experience has shown that the culture by the ancient languages should be no longer

postponed, in the case of those who are intended for the learned professions, and when the studies of others destined for the arts should take a different direction. The question, whether the proper age has been adopted for this separation is wholly one of experience, and the facts in reference to it will be submitted in speaking of secondary instruction.

The subjects taught and the time they occupy in the *elementary school* agree very closely with those of the first two classes in the seminary school of Berlin. Drawing on slates and singing are both introduced here, constituting an advantage over the other; they are brought in as a relief from intellectual exercises, and as objects of direct attainment. The number of hours of duty is but four on four days of the week, and two on each of the others. These might, I think, be increased to the standard of the primary schools, twenty-four hours per week, without fear of over-tasking the pupils; and if a portion of the time were bestowed on judiciously arranged exercises, the physical as well as moral education would be improved. The moral training of the play-ground is not as yet an element in any of the German systems. The same master teaches in succession all the studies of his class.

The pupils pass from the third to the second class at the end of six months, a change which is favourable to their progress, since at this early age strongly marked differences appear soon after entering the school. With a similar view of fitness in regard to their age, the plan of daily exercises is not rigorously prescribed, but is merely indicated to serve as a general guide in relation to the time to be devoted to the different subjects.

I found occasion in this school to remark the danger of defeating the exercises of induction, by making them merely mechanical, by the reception of fixed answers to invariable questions: and, also, the necessity of selecting very simple melodies for the early exercises in singing: beyond these, the exertion of the voice of the child, so far from being a physical benefit, is a positive injury. My preference for beginning arithmetic with a reference to sensible objects, that is, by denominate numbers, was again strongly confirmed.

It might seem impossible to determine how many pupils of a definite age might, with advantage, be entrusted to the care of one teacher under a given method of instruction. The average for branches of the same kind is not, however, so wide from the extremes as might at first be supposed. In the simultaneous method, the skill of the teacher is the chief determining quality. The various subordinate ones depending upon the pupil, the particular exercise, the arrangements in reference to ventilation, warmth, &c., will readily suggest themselves. In the midst of all these, the average shows itself to attentive observation. It is easy to see how many pupils are attending to what is going on, and if the teacher be skilled in his art, the number is thus obtained, which a class should not exceed. For the intellectual exercises, I obtained in this way from thirty-five to forty in the German schools as the maximum number of an elementary class; the observation in reference to the classes of the best teachers here confirmed these numbers. In the mechanical branches, the number of pupils may be very much increased, without material injury to the instruction, and hence the classification which suits them is not adapted to the intellectual departments.

The principal subjects of instruction in the *burgher school*, including both the lower and higher departments, are religion and morals, German, French, arithmetic, geometry, natural history, history, geography, calligraphy, drawing, and vocal music, and to these are added in the highest classes technology and physics. The list differs from that of the Dorothean higher city school, and the seminary school of Berlin, in the omission of Latin and the introduction of technology and physics, both which differences mark the proper character of the school. It is not intended that the upper classes shall prepare pupils for the higher classes of the gymnasium, but that those who are to be trained in the classical studies shall have previously passed to the lower classes of the gymnasium, where they properly belong, and where they can obtain the instruction appropriate to their objects. The distribution of time is shown in the annexed table, which is similar in its arrangement to those already given.

**Plan of instruction in the higher and lower burgher schools of Leipsic.**

| SUBJECTS OF INSTRUCTION. | BURGHER SCHOOL FOR BOYS. | | | | | | Total. |
|---|---|---|---|---|---|---|---|
| | *Higher School.* | | | *Lower School.* | | | |
| | First Class, 13 & 14 years of age. | Second Class, 12 & 13 years of age. | Third Class, 11 & 12 years of age. | Fourth Class, 10 & 11 years of age. | Fifth Class, 9 & 10 years of age. | Sixth Class, 8 & 9 years of age. | |
| Religious Instruction, | 4 | 4 | 4 | 4 | 4 | 4 | 24 |
| German Language,* | 5 | 5 | 8 | 6 | 8 | 6 | 39 |
| French, | 2 | 2 | 2 | | | | 6 |
| Arithmetic, | 4 | 4 | 4 | 4† | 6 | 6 | 28 |
| Geometry, | 2 | 2 | 2 | | | | 6 |
| Natural History, | 1‡ | 3 | 2 | 2 | 2 | 2§ | 12 |
| Technology, | 2 | | | | | | 2 |
| Physics, | 2 | | | | | | 2 |
| Geography, | 2 | 2 | 2 | 2 | | 2 | 10 |
| History, | 2 | 2 | 2 | 2 | 2 | | 10 |
| Writing, | 1 | 2 | 2 | 3 | 3 | 4 | 15 |
| Drawing, | 4 | 4 | 3 | 3 | 2 | 1 | 17 |

increased, and perhaps beyond the due limit, though it would require longer attention than I could give to this institution to affirm positively that this is the case. Comparing the programme with that of the classes of corresponding age in the seminary school of Berlin, a general similarity appears throughout, although each has distinctive features. In the sixth class, of which the pupils are of the same age with those of the fourth in the seminary school, a few lessons of natural history and geography ("knowledge of home") are given, and with advantage. The number of hours per week devoted to the different studies is nearly the same in both schools.

In the fifth class, natural history and history are introduced in the burgher school, and in its corresponding classes in the seminary school, Latin, French, and geometry. The number of hours of arithmetical instruction is greater in this school than in the other.

A similar difference continues in the fourth class, as it is not the object to begin French until after those who leave the school at fourteen have terminated their course. The elementary exercises of geometry are begun in this class of the burgher school.

The third class is the first or lowest of the *higher burgher school*, and the programme of this and of the second agree in the main with those of the seminary school. Greater attention is devoted to religious instruction, to arithmetic, and drawing, and less to French, in the burgher than in the seminary school. The number of hours given to the first named branch in the burgher school is double that in the other, and the number to the last only one-half, which is probably too small an allotment for the object. Technology and physics are taken up in the first class of the Leipsic school, and Latin is continued through all those of the Berlin institution.

In regard to the plan of treating the subjects of instruction, the following is a comparison of the two schools:

1. In *religious instruction*, the general train is the same, being more detailed in the burgher school, and having a special course of morals in the higher classes. In general, the Ger-

man institutions are very free from an objection urged to a course of religious instruction, in a former part of my Report, namely, that it was addressed rather to the understanding than to the heart. There is no express instruction in morals, but it is because the morals of the Scriptures mingle with their daily lessons, and no special course is needed, until a more advanced age, than that embraced by these schools in general.

2. The course of *German* language (including composition) and reading is parallel with that of the Berlin seminary school, except in the two higher classes. In these a turn is given to the compositions to adapt them to the peculiar destination of the pupils, who are also exercised in speaking, by reading dialogues and brief dramatic pieces. In a country enjoying a constitutional government, the art of public speaking may not be neglected by its citizens.

3. The course of *French*, in the burgher school, struck me as rather defective, probably from the small amount of time which is devoted to it, as already stated.

4. *Mathematics.* The courses of arithmetic and geometry are also parallel with those in the seminary school. The mathematical studies here are extended further in algebra, and include logarithms, mensuration, and surveying.

5. *Natural history, physics, and technology.* The early beginnings of this course are exercises in induction, directed particularly to awakening habits of observation and reflection. Later, some of the more interesting parts of natural history are taken up, and, finally, the subject is treated somewhat systematically, and a technological direction given to it. The physics consists of such popular notions of natural phenomena as should be possessed by all. The technology explains the processes of some of the common arts and trades.

6. The course of *geography* begins like that already described at Halle, but subsequently pursues the inverse order, giving an idea of the earth as a part of the world, its form, motions, &c. Director Vogel has conceived the plan of presenting the parts of the earth always in their just proportions, as upon the sphere, and has contrived for this purpose a globe, which may

be divided through the equator or through a meridian. The hemisphere being suspended with its plane surface against the wall, presents the convex surface, with its delineations, in true proportion. This idea he proposes to extend, by substituting for maps, in the early recitations, portions of spherical surfaces, with the delineations of the countries upon them.

After taking a general survey of the different countries, especially those of Europe, the pupils pass to the geography of Germany. They then enter more into the details of the countries of Europe, draw maps, and, finally, study mathematical and physical geography in a scientific form. To carry out his views of the connexion of history, natural history, and ethnography with geography, director Vogel has prepared a school atlas upon a new plan. The vignettes surrounding the maps contain illustrations of these different kindred branches, and address the eye of the learner, thus impressing the memory with their connexion with the countries delineated. For example, around the maps representing the different quarters of the globe are the characteristic plants, animals, and men of the different regions near to the portions of the country where they are found. The more detailed maps of the countries give a view of their natural productions, represent the more prominent or characteristic qualities of the nation, the arts which flourish more particularly among them, and give medallions pourtraying their great historical characters, or including the names of their distinguished men, or the dates of important historical events. The execution of this work is highly satisfactory, and I am convinced of the advantages of the plan itself.

7. The *historical* course, as far as it is distinct from that last mentioned, agrees, in its general features, with that of the Berlin seminary school, being, however, more minute.

8. *Writing and drawing.* In learning to write, the classes begin with small hand, and succeed better than is usual upon that plan, probably from the attention, at the same time, to drawing. The last named branch is taught by Schmidt's method. The teacher has made an admirable collection of models in wood and plaster, of geometrical solids, of machines,

of buildings, bridges, and the like, of ornaments, &c., and brings his class forward in this kind of drawing very rapidly. Only the more elementary parts of these collections, however, are used for the classes of the burgher school.

9. Vocal music is taught as in the other schools.

The particular method which the teacher pursues in his instruction is left much to the individual, the director remarking justly, that if he is competent to his place, his method must be good. He has for his guide, however, a programme indicating the degree of proficiency which his class must show at the end of the year.

In the lower classes of a school like this, if the pupils have been previously well trained, a larger number can be instructed by the simultaneous method than in the elementary classes, in a subject of the same kind. This advantage is lost as the course becomes higher, and the scale turns again in proportion as individual teaching becomes more desirable, with increased individual development and differences in mental quality. The simultaneous method requires watchfulness on the part of the teacher, not to deceive himself as to the progress of his class. It is, of course, rarely that a question cannot be answered by some of them, while the mass may be entirely ignorant in relation to the subject. I have seen both skill and attention fall into the mistake to which I refer.

Between each of the hours of recitation there are a few minutes of interval, during which the classes leave the schoolrooms. This is an arrangement favourable to health, and worthy of imitation.

The lower classes have each a teacher for all the subjects, a system which is gradually changed in the higher classes for that of a teacher for a single subject. Drawing and singing are taught by special instructors in the higher classes.

The classes for girls are similar to those described, the instruction being modified so as to render it more applicable to the sex.

The plan of instruction in the "*Real School*," the highest of which this establishment is composed, can hardly be said to

have received, as yet, its ultimate form. The school belongs to the class of secondary instruction, running parallel with the gymnasium, and preparing for the university of the arts, or polytechnic school, as the other prepares for the university of the learned professions. The branches taught, and which I may enumerate, to complete the description of the institution, are,

1. Religious instruction. 2. German. 3. French. 4. English. 5. Mathematics, including algebra; geometry, trigonometry, plane and spherical; practical surveying; a review of arithmetic and technical arithmetic. 6. Physics and chemistry. 7. Natural history. 8. History. 9. Geography. 10 Calligraphy. 11. Drawing. 12. Vocal music.

The separate branches in this school are in general taught by special instructors. The methods of Pestalozzi are considered by the director as less applicable to the higher than to the lower courses. But I doubt this, for though much less frequently applied, I have seen them used with good effect in advanced courses. The opposite method takes up less time if the object be to communicate positive knowledge, and the importance of this object certainly increases, and even becomes paramount, in the later parts of the student's career. The objection urged to this plan does not apply in the case of those subjects which are continuous through a series of years, but to such as are broken up into a number of kindred branches, the elements of which are to be taught at different, and even at advanced stages of the course.

The plan of special study hours for those whose parents wish them to be prepared for their lessons under the direction of a teacher, has been adopted in this school.

### MODEL, OR BURGHER SCHOOL AT FRANKFORT ON THE MAINE.

I conclude the account of the German burgher schools, which the interesting nature of the subject has induced me to present somewhat at length, by a brief notice of the model school, (muster-schule,) or burgher school* of Frankfort on

* Under the direction of Mr. Bagge, an able and experienced teacher.

the Maine. This is one of the best conducted of the many which I have seen, and is of great importance to the city which supports it, and whose authorities have the superintendence of it. It differs from those already described in two points; in the first, that the religious instruction is general, and not sectarian; and second, that the French language has much time devoted to it, as being indispensable at Frankfort to the class for whom the school is intended. The school plan, with the hours of instruction, will occupy but little more space than a bare enumeration of the subjects taught. It is the result of much experience, and of changes from time to time, to keep the school up to the level of the instruction of the day. It presents a well digested course for pupils from six to fourteen or fifteen years of age. As usual, the figures refer to the number of hours occupied per week by the several subjects of study.

Table of the plan of exercises at the Frankfort Model School, 1836–7.

| SUBJECTS OF STUDY. | First Class. | Second Class. | Third Class. | Fourth Class. | Fifth Class. | Sixth Class. | Seventh Class. | Total. |
|---|---|---|---|---|---|---|---|---|
| Religious Instruction, | 2‖ | 2‖ | 2 | 2 | 2 | 2 | 2 | 14 |
| Exercises of Thought and Speech,* | | | | | | 2 | 2 | 4 |
| German Language, | 6 | 4 | 4 | 4 | 4 | 6 | 10 | 38 |
| French, | 6 | 6 | 6 | 6 | 6 | | | 30 |
| Geography,† | 2 | 4 | 4 | 4 | | | | 14 |
| Natural Philosophy, | 2 | 2 | | | | | | 4 |
| Mathematical Geography,‡ | 2 | | | | | | | 2 |
| Technology and Chemistry, | 2 | | | | | | | 2 |
| History, | 4 | 2 | | | | | | 6 |
| Arithmetic and Algebra,§ | 6 | 6 | | | | | | 12 |
| Arithmetic, | | | 4 | 6 | 6 | 6 | 6 | 28 |
| Algebra, | | | 2 | | | | | 2 |
| Geometry, | 4 | 2 | 2 | 2 | 2 | | | 12 |
| Lessons of form, | | | | | | 2 | | 2 |
| Writing, | | 2 | 4 | 4 | 4 | 6 | 6 | 26 |
| Drawing, | | 2 | 2 | 2 | 2 | 2 | | 10 |
| Singing, | | 2 | 2 | 2 | 2 | | | 8 |
| Total, | 36 | 34 | 32 | 32 | 28 | 26 | 26 | |

* Exercises of induction.
† Combined with elementary physics, or a popular view of natural phenomena.
‡ And popular astronomy.
§ Higher arithmetic.
‖ The two classes united.

The elementary classes are confined to few subjects, and which are introductory to those of the higher classes, and calculated to develope the moral principles, the intellect, and readiness in the mechanical branches of instruction. The sphere is then widened, by introducing a foreign language, the study of natural phenomena, and of form. In the advanced classes, as constituting a preparation for the pupil's future career, a more systematic account of the earth and its productions, of man and his actions, as recorded in history, and of the processes of art, are furnished him. The programmes of the last two schools which have been under discussion, are both liable to the objection of attempting too much in the last year.

The physical education is so far attended to in this school, as to provide a very neat and tolerably spacious play-ground, and to give an interval for play during the morning hours.

## CHAPTER VII.

### COMMON SCHOOLS OF BAYREUTH IN BAVARIA, AND DR. GRASER'S SYSTEM OF EDUCATION.

THE reputation of Dr. Graser's system, among certain of the teachers of Germany, induced me to visit Bayreuth, where he resides, to examine, under his direction, the schools which pursue his method of education. Dr. Graser rejects equally the communication of positive knowledge and the giving of intellectual culture as the true ground-work of a system of education; he considers these as incidental objects, and that the principles of a system are to be sought *a priori*, by a consideration of the purpose of education, of man as its recipient, and of the subjects or branches of instruction.

His system, therefore, professes to reject every thing like an arbitrary assemblage of branches, and to present a rational plan for selecting the subjects of instruction, and for determining their succession. It must require a mind brought up in a similar school, to enter into the philosophy, so called, of this system, and I do not propose to attempt a full view of it.* I shall, however, briefly state what appears to me its chief principles, of which, though they may be true in the abstract, I

* It may be objected to even this brief notice, that it is going out of my way, and that, if followed, it would require an examination of the system of Jacotot as well as of this. This objection has not escaped me, but Graser's system is little known among us, while Jacotot's has been often discussed. I visited the school of one of Jacotot's most prominent pupils, at Paris, and must say, that the results seemed to me more showy than sound. Dr. Graser's principal works are Divinitat, oder das Prinzip der einzig wahren Menschenerziehung, &c.; Divineness, or the Principle of the only true Education for Men, &c.; Die Elementar Schule fürs Leben, &c.; Elementary School for Life, and das Verhältnisse des Elementarunterrichts zur Politik der Zeit, Dependance of Elementary Instruction on the Political Circumstances of the Time, &c. There is a good and quite full sketch of Dr. Graser's system in Kröger's Journey through Germany, Reisen durch Deutschland, &c.

confess that I do not perceive the peculiar applicability. I shall then pass to the practice, which may be of interest, even if the theory should not be deemed satisfactory.

After considering the constitution of man, Dr. Graser lays down the principle, that he is destined to live in accordance with it, and in the pursuit of holiness (godliness, divinität). The child must be educated in reference to this destination. Man requires strength of body, hence physical education, and of soul (virtue), hence moral education. His bodily strength must be rendered available by dexterity, his virtue, by prudence. Both must be directed by intelligence, hence intellectual education. Besides, he must have a just sense of the harmony in the relations of life, or a feeling of fitness, or beauty, hence aesthetical education. As a condition of his being, man stands in certain relations to external nature, to his fellow men, and to God. Instruction in nature, man, and God, must, therefore, form the materials of his education. Nature must be viewed in its productions, the objects of natural history, or its phenomena, the objects of natural philosophy, or physics. To complete the study of nature, geography, arithmetic, geometry and its applications, and drawing, must be called in, and the practical application of the study includes technology and domestic economy. The study of man requires that of the theory of gymnastics, dietetics, history, and geography. To approach to God, man must know him. The first form of godliness is truth. God's truth, then, as revealed, should be man's study. The second form is justice; jurisprudence in higher education, or the laws of the land in lower, should, therefore, also form a part of man's studies, and as accessory subjects, history and grammar. The third is love, taught through morals or practical religion. The fourth is beauty, requiring the study of painting, music, poetry, and decorum. Graser next endeavours to modify the several subjects of education, according to the special wants of those who are to receive it, which he considers to depend upon their political situation. Thus, for his country, he divides men into three classes, the people, or governed; the nobles; and the reigning family, or governors.

The first he considers as more concerned with material objects, the others with the ideal, or spiritual, and hence adopts two divisions of the subjects of study, as calculated for their schools.

In the arrangement of instruction, his principle, that the school must prepare for actual life, is brought into play. He admits no separation into branches of study, no natural order of succession in the branches, but insists that all instruction shall be grouped according to the wants of some particular mode of life. Taking society as the state of man's existence, he begins instruction with the paternal mansion of the child and his family relations, and attaches to these all the elementary knowledge of morals, manners, speech, number, form, objects, drawing, and writing, which would be found necessary in this sphere. He next widens the sphere to include the place of residence, with its community; extends it to the circle or judicial district, to the province, to the country, to the assemblage of the German states, the division of the earth, the entire earth, the universe.

The application of Graser's principles to a common school will be best understood by following up the course of instruction as far as it has been developed in one of the schools of Bayreuth.*

The *sixth*, or *lowest class*, is instructed in what relates to family life. The exterior of the house. Its interior. Its inhabitants. Their wants.

The classification followed in Würst's reading-book will show, generally, the way in which these subjects are taught.

* Dr. Graser is not himself a teacher, nor has he, at present, the means of enforcing, by authority, the adoption of his methods; hence they have not the advantage of execution by the designer, nor do they appear in all the classes of this school. To the kind attention of Dr. Graser I was indebted for an opportunity of visiting three of the common schools of Bayreuth, in which his method was more or less used. In speaking of the principles of this method, I have endeavoured to keep in view the respect which is due to the personal character and zeal of Dr. Graser, and also the fact that, having been educated in a totally different atmosphere, as it were, I should be likely to err in forming an estimate of the value of similar speculations. I have aimed, therefore, at giving an account of the system, as far as I understand it, leaving to others to pass judgment on it.

1. The paternal mansion, considered as the dwelling-place of the family. Houses and huts. Stones and lime. (Story of an accident from playing with lime.) The walls and the roof. Doors and windows. (History of the discovery of glass.) Earth, fire, water, and light. Comparison of building materials. Gloom, darkness, light, shadow. Property. Owner. Rectitude. Goodness. Decorum. Politeness. (Story of the polite and the rude boy.) Pilfering. Theft. Robbery. Robbers. 2. The inmates of the house. Enumeration of them. Exterior distinctions between the men and animals. Distinctive qualities of the different domestic animals. The poultry. Further distinctions between men and animals. Voice. Speech as a characteristic of man. Power of induction. Moral order of the family. (The intractable child.) Uses of the domestic animals, obligations towards them. (Tormentors of animals.) Noxious domestic animals. Conduct towards them. Flies. Spiders. Review of conduct towards animals in general. 3. Wants of the inmates of the house. The dwelling itself. Furniture and clothing. Arrangements for their preservation. Inviolability of the property of children and servants. Activity and offices of parents. Duties of children towards their parents.

This course is commenced between six and seven years of age, and occupies about six months. I shall go into some particulars in regard to parts of the instruction. 1. The dwelling-house.—The teacher shows a model of a simple dwelling-house, of which the gable end may be removed, and is a rectangular block, surmounted by a triangle. The teacher takes off the triangle, and counts the number of its sides audibly; this part of the house has how many sides? is his question. Three. He shows that it has also three corners, or asks how many corners, leaving to the more intelligent pupils to lead the class in the answer, and when the answer is obtained, causing it to be repeated by all. Watching the class, if he finds inattention, he addresses the question where it prevails, giving the pupils as much as possible to find out, in order to keep up their attention as long as their physical constitution will permit. A change of subject, physical exercise, or rest, should be allowed when the attention is exhausted, the habit of which may be gradually established by training. This inductive course, combined with repetition, is always employed, and in what follows I shall merely indicate the order of the instruction. The figure in question is three-cornered. Interior corners are called angles.*

* In German the space formed by the meeting of two lines viewed from the

It is a three-angled figure, and called a triangle. Next, the four-sided figure is similarly treated. Then the triangular cap is set upon the rectangle, forming a five-sided figure. This part of the model is now placed before the children to draw upon the slate, with the following preliminary instruction. Each group of three or four children, or, if convenient, each child, is furnished with a rectangle of pasteboard, or thin wood, in which five holes are pierced, corresponding to the five angular points of the pentagon to be drawn. These are marked on the slate by inserting the points of the pencil through the holes, and the child is practised in joining the points by hand. Practice in this constitutes his first drawing-lesson. Returning to the rectangular part of the model, the positions of the vertical and horizontal boundary lines are pointed out, and a plummet and common mason's level are shown, to give a notion how these lines are established in practice, and a correct idea of their actual positions. Attention is next called to the horizontal side of the triangular cap, then to the sloping sides. A comparison of the angles which they form with the horizon, and that formed by the horizontal and vertical lines, leads to the distinction between acute and right angles. The objects of a triangular roof, and of the rectangular lower part of the house, are next stated. An obtuse-angled polygonal roof is substituted for the one already mentioned. The form gives an illustration of the obtuse-angle, placing it upon the model leads to counting as far as seven. Dividing the house into stories by lines, to counting to nine. The children are next led to enumerate the parts of the house as shown in the model, and with the names of which they are of course familiar—as the doors, windows, &c. The distinction between squares and rectangles is made obvious. The parallelogram and rhomb are also here introduced. The distinction between curved and straight lines, &c. Different simple drawings of cottages are made. Counting is continued to ten. Addition is commenced by referring to the

interior, or from the exterior, has different names, and the compounds of these, with the numerals three, four, five, &c., constitute the names of the figures, as drey-eck, vier-eck, &c.

number of panes in the windows of the model, covering up those not to be added, and proceeding from smaller to larger numbers, within the limits of ten. These are extended to one hundred, stating to the children the mode of formation of compound numbers, to assist their memory. Subtraction is introduced by reference to the same illustrations. Mental arithmetic alone is practised. In adding numbers which exceed ten, the tens are first added, then the units, carrying to the tens, if necessary: thus, in adding twenty-two and thirty-nine together, their process would be, twenty-two is two tens and two ones—thirty-nine, three tens and nine ones; two tens and three tens are five tens; two ones and nine ones are eleven ones, or one ten and one one; five tens and one ten are six tens, and one, sixty-one. Multiplication is begun also by a reference to the window-panes, which afford, usually, many combinations. Division is similarly treated, the question being such as the children would take an interest in solving, and their coins are early explained to them, and made the subjects of their exercises. Fractions grow naturally from division. The foregoing instruction is interspersed with other matters yet to be described.

In fact, there is no fixed order of exercise, or school-plan, according to Graser's method, but the teacher is relied upon to advance the different parts of the instruction duly, according to his observation of the progress of the class.

The elements of physics, natural history, technology, and domestic economy, are thus introduced, it being understood that the same mixed method of question and answer, and of direct and inductive teaching, is used throughout. Men did not always live in houses, but once in caves and huts. The inconveniences of such places from cold, damp, &c., are pointed out. The materials required for a house, as stone, mortar, wood, iron, &c. Most of the children have seen the operation of building, and can tell the materials required; those who have not observed, will probably not let an opportunity pass afterwards of so doing. Whence the stone is procured, quarries, quarrymen. The hewing of stone. Limestone and lime—the objects being presented to them. The conversion of the lime-

stone into lime. The slaking of lime, making of mortar, its hardening, laying the stones. Digging of the trench for the foundations, &c.

Next the wood is taken for the subject of a lesson. The distinction of wood from fruit trees and forest trees is shown. Shaping of the wood by sawing. Beams. Planks. Boards. Laths. Trade of house-carpenter. Of joiner, &c. In the same way iron is treated of. Bricks and tiles. Glass.

In recapitulating these matters, or in presenting new ones, the elements of grammar are begun. The nouns and adjectives are easily distinguished from the other parts of speech by the induction of the pupils themselves, when directed in the right way.

Used as incidental matters of instruction, but not as forming its ground-work, it appears to me that the foregoing subjects are of value, and that useful hints may be gathered from the way of treating them; hence, I am led to remark upon certain sources of difficulty in their execution. The instruction may be rendered wholly ineffective by the teacher treating the subject in a mechanical way, so that what is intended to excite the observing and reflecting faculties, especially the former, shall become a mere memory of words. It may be rendered actually mischievous by the teacher inculcating erroneous ideas of natural phenomena and natural history. The teacher's guide should be prepared with care, and revised by adepts in the sciences, to avoid such mischief, which I have known to occur in many cases.*

Elementary ideas of right and wrong, of goodness, of "fitness" ("the beautiful"), are inculcated in the following way: The dwelling being still under discussion, the attention is called to the parts of the door, its lock, &c. The object of the door

* To show that this is not imaginary, I may mention that, in a school where the subject of the caustic nature of lime, and of its heating during slaking, were under examination, they were explained thus:—the limestone was turned into lime by heat, in which process it absorbed a great deal of heat, which made it burning, or caustic; when water is thrown upon it, the water unites with the lime, and this heat escapes.

and its fastenings. Who may rightfully enter a house. The right to put out those entering wrongfully. A story is told here of a poor child begging for admission to a house during a storm—cold, hungry, and ill-clothed. The child is received and supplied. The moral is drawn from the children, and benevolence, love to man, is inculcated. In entering a strange house or a room, leave must be asked. The contrast of good and bad manners in making or answering the request is brought home to the children. The subject is next followed up by supposing an unlawful entry made into the dwelling, and the difference between theft and burglary, or stealing and robbing, is brought out. The smallest possible theft of any kind, or pilfering, is immoral. A story is told to illustrate the fate of the pilferer.

Next the inmates of the house and out-houses form subjects of instruction, the mode of treating which will easily be conceived by referring again to the general enumeration of the arrangement of the subjects. Exercises of speech and thought, natural history of domestic animals, and much elementary technological information, are thus introduced. Proverbs are committed to memory, inculcating moral lessons or duties.

The next head furnishes an opportunity to examine the wants of the inmates of the house, the topography of the dwelling and its grounds, as introductory to geography, the construction and uses of the furniture in continuation of technology, and to introduce the drawing of simple articles of furniture. Speech is considered as the means of communicating between the members of a family. Other modes of communicating ideas by signs and gestures are adverted to. The sight may be addressed through pictures as substitutes for verbal descriptions addressed to the ear. Hieroglyphics or signs may be substituted for pictures. Trials of these are resorted to, as, for example, the curve of the forefinger and thumb forming a C, may be imitated on the slate, and understood to stand for "come here." A number of signs, having reference to letters subsequently to be formed, and to their actual use in the spelling of words, are taught to the children, who at first are delighted with these acquisitions, but after a time find the accumulation of signs very troublesome. This

is supposed to prepare the way for a zeal in acquiring writing and reading. To connect the written with the spoken language, Dr. Graser goes back to the origin of the former, and imagines that the forms of the letters result, in general, from an attempt to imitate the position of the lips, or lips and tongue, in sounding the component parts of a word. This requires a difficult and in many cases a most fanciful* connexion to be formed in the mind of the pupil between the sound and its sign. Four different series of lines are ruled by the pupils upon the slates, on which they write; one is a set of two parallels for the standard letters; another of three parallels for the letters which project above the standard lines, the interval between the upper two being less than that between the lower; another set, also of three parallels, for the letters which extend below, and a fourth for those which extend in both directions. Words are formed as soon as possible, and of a kind intelligible to the child, and sentences of the same character. I doubt much if the pupil receives any real aid from the connexion assumed between sounds and signs. The determinate sound of the letters in the German renders the spelling easy, when the true sound and the signs of the letters have been connected in the memory.† The previous practice of drawing has prepared the hand, so that there is a remarkable facility in acquiring the manual part of writing. The selection of intelligible sentences carries out the habit of understanding every thing as it is brought forward. Reading the written hand soon becomes familiar, and the transition to

* I have called this fanciful, for so it appears to me, but speak in no spirit of disrespect. This method is connected, in Dr. Graser's school, with the instruction of the deaf and dumb with other children. The maxim prevailing in the principal schools of Germany for the instruction of the deaf and dumb is, that they must be restored to society by enabling them to understand speech and to speak. Hence the first attempt is to make them understand the motions of the organs of speech, and to imitate them, forcing air through them so as to produce the sounds. The perseverance and zeal expended in attempting to carry out this idea are almost incredible. In some of the institutions for deaf mutes much of the instruction is actually communicated through the means of speech.

† I have a specimen of writing from one of a class who had been five months under this instruction, remarkable for the correctness of spelling and execution. It was written from dictation. The pupil was seven years of age.

the printed letters is easy. In all this instruction the black-board is used for illustrating the lessons. Elementary principles of grammar are inculcated in connexion with the writing and reading.

In the next class, occupying also six months, the instruction is connected with "life in the community." This includes the political organization of the community, with the reasons for it; the geography of the place; the continuation of the exercises of thought and speech; the commencement of Bible history; an extension of instruction in morals, technology, and natural history; of the elements of form; of grammar; of drawing and writing; so at least they would be called in the other schools. The plan of arrangement is as follows:

LIFE IN THE COMMUNITY. History of the formation of communities, with their wants and obligations. Original existence of man. Union of several families. Fatal accidents in communities. Necessity of mutual aid in misfortune. Necessity of a magistracy. Arrangements for safety. Taxes. Laws and punishments. Wants of the community. Roads, bridges, &c. Watchmen. Servants. Council-house. School-house.

2. IN REFERENCE TO MAN. The five senses. Their abuse exposes to punishment. Information in regard to the organs of sense. Their injury or deficiency. Their preservation and exercise. The mind. Perception not required for thought, or for distinguishing the true from the false, the good from the evil. The soul. Man has reason and will. Stories of good actions. The good is not always rewarded in this world, but there is a God.

3. RELATION OF MAN TO GOD. Attributes of the Deity. God is the creator, the supporter, the governor of the world, the father of all men, the high and righteous judge, a spirit. Duties to God. Honour, love as of a child, trust, thankfulness, reverence. Constant remembrance of God. Conscience. Stories related. The evil conscience. Conscience makes a man anxious and uneasy when he does wrong. The moral to be inculcated is, that man has within him a monitor which warns him against doing evil. Story of a pleasant evening. There is also approval within one's self of good deeds. Necessity of a revelation to man. Stories from the Scriptures related. The creation. Cain and Abel. The deluge. Those saved. The prophets. Expectation and coming of the Messiah. The three wise men. The child Jesus. John. Jesus the teacher, saviour, and founder of the kingdom of godliness.

4. RELATION OF MAN TO NATURE. The native place and its environs. The village as the dwelling of the community. The cardinal points. Position of the buildings. Streets. Roads. Springs. Stories of the village. Review of the position of the village. Natural history. Beauties of nature. First walk in the garden. Fruit trees, shrubs, herbs, flowers. The fields, hills, valleys, woods,

and forests. Morning ramble in the woods. Morning song. Insects. Stories of cruelty to insects. *Natural philosophy.* Heat. The sun. Sunrise. Song. Division of time. The calendar. Vapour. Storms. Thunder and lightning. Rules for protection.

5. RELATION OF MAN TO SOCIETY. Age and youth. Infirm persons. The able bodied and the sick. Duties towards and protection of the sick. Employments. Labourers and tradesmen. Peacefulness. Willingness in service. Uprightness. Respectfulness. Disposition to work. Poverty and riches. Contentment.

The same elements of instruction are, in the next class, grouped about the next political division, the circle, the course occupying, as before, six months. Beginning here, the division restricts some portions of instruction unnecessarily. In general, however, I was satisfied with the progress of this class. I had no opportunity of judging of the results of the following division, namely, "life in the province," no class being in that stage of progress.

In the next following, or "life in the kingdom," the political circumstances became too abstruse for the intellectual development of the children, and the attempts at induction in regard to the government failed almost entirely. All the circumstances, except those relating to the army, were out of the pale of their ordinary experience, and the complex mechanism of government was beyond the power of their reason to grasp. The German language is taught grammatically in this class, and, besides the geography and natural history of Bavaria, its history, the biography of its most distinguished men, arithmetic, mental and written, geometry, drawing, singing, and morals from the Bible. At this stage of progress, it is quite apparent that the branches require a different mode of instruction, that they must be separated, and the progress of each regulated according to the adaptation of the mind of the pupil to its reception, and not according to any extraneous theoretical circumstances.

The two highest classes being joined under a teacher who pursued altogether the old method of instruction, I had no opportunity to put to the test the judgment formed in the lower class, which I have just expressed. Social or political circum-

stances do not afford, I am satisfied, a just method of arranging the details of instruction, though a knowledge of them should doubtless form a part of education. The reasons why the arrangement of Graser produces satisfactory results in the lower classes are, first, that elementary instruction does not require a systematic division of its subjects, in order to apply them to cultivating the intellect or morals, or for communicating knowledge: and second, that the subjects are within the pale of the child's experience, and refer to his every-day wants and perceptions. Just the reverse, however, is the case in the higher divisions, and hence a different method becomes absolutely necessary.* Still the leading idea of the system, that to develope the intellectual, moral, and physical faculties of man is not sufficient, but that he must be educated in reference to the life in which he is to take a part, strikes with the force of truth, independently of the details which may be devised to carry it into effect.

The institutions which Dr. Graser considers necessary to give the entire public instruction of a nation are:

| *Popular Schools.* | *Schools for Higher Instruction.* |
|---|---|
| 1. The elementary school. | 1. The elementary school. |
| 2. The real school, ("Real Gymnasium.") | 2. The gymnasium. |
| 3. The real institute, ("Real University.") | 3. The university. |

The character of the instruction appropriate to these establishments may, according to his views, be thus expressed. In the elementary school, it should be popular and inductive; in the real school, practical and scientific; and in the university, scientific and practical, or applying science to practice.

* This view is also taken by Dr. Kröger, whose experience and skill as a teacher I have already so often referred to. See his Journey through Germany. (Reise durch Deutschland, &c., pp. 132, 133.)

## CHAPTER VIII.

### SCHOOLS OF AGRICULTURE AND INDUSTRY.

Besides the schools for general instruction, which have been noticed in the foregoing chapters, others have been devised, intended to give special education for a future calling while pursuing the branches of common school instruction. The devotion of a part of the time to manual labour, as in the schools of Dresden and Leipsic, &c., already spoken of, is incidental, and not a chief feature in the plan, and the occupations learned in the boys' schools are not such as are likely to be followed in after life. In the schools now under consideration, on the contrary, the manual labour, or practical exercises, are leading features in the system, and are intended to train the pupil for his future vocation. These establishments require very peculiar circumstances to render them useful; the future occupation of the pupil must be distinctly pointed out at an early age, or it must be desirable to give him a particular bias by education. Thus, in the rural cantons of Switzerland, there can be no doubt that boys without fortune are to be agricultural labourers, of a grade depending upon their success in life, and it is highly important to the country that as many as possible should be trained in the theory and practice of their calling. Hence the establishment of "rural schools" in these cantons, and the encouragement held out to their multiplication by patriotic citizens. Again, it is important in a community like that of Lyons, where the manufacture of silk employs so large a number of the population, that the workman should be acquainted with the theory of his art, and should, if he have talent, also have the acquirement necessary to improve it. Hence the appropriation of the Lamartinière funds to give a suitable training to those whom it is supposed may become workmen in the extensive manufactories of the city. The creation of

such schools, where the conditions necessary to render them successful cannot be fulfilled, must be followed by failure. They belong essentially to particular localities and social circumstances, and their extension, without reference to a due consideration of these, has tended, in some cases, to destroy the favourable opinion formed from the operation of similar establishments in their legitimate sphere. The present condition of the rural schools of Switzerland, as exemplified by those which I visited, a comparison of the organization now existing with that at the outset, an inquiry into how far the results expected from them have been realised, and among these results, how far the schools may be considered as self-supporting, afford general matter of interest, and will appear in the descriptions of the schools at Hofwyl and Carra. An example of a school adapted to the rural population of England will follow the notice of the Swiss schools, affording an instance of the adoption of a principle, and its ingenious modification, to suit the new circumstances under which it is applied.

On account of the late age at which the pupils enter, and the grade of agricultural life for which they are prepared, I have hesitated as to a notice of the agricultural school at Templemoyle, near Londonderry, in this chapter; but considering that the intellectual instruction is quite elementary, I have concluded to insert it. It will be remarked, in relation to all the agricultural schools, that the age to which pupils are retained passes far the limits of the primary period of education.

An admirable plan for adapting the ordinary day school of the National Board of Education for Ireland to the wants of an agricultural community, has been put in practice by Captain Kennedy, at the estate of Lough Ash, in the county of Londonderry. The children are taught the theory and practice of gardening, of farming in a small way, and of the care of cattle, &c., by the master, working a certain number of hours every day, when the season permits, in the small garden and farm attached to the school. When these arrangements have been matured, and have been in steady operation for a considerable time, the results will, I have no doubt, prove of

great value to the portion of the country where they will be displayed, extending beyond this one estate by the imitation of the system in others.

Besides, the general interest which may attach to these schools, the variety of arrangement, and the methods of instruction in special branches, cannot fail to be of service for the more direct objects of my Report. The Lamartinière school is entitled, I believe, to the credit of carrying into full execution the method of teaching the elements of chemistry and mechanics, by combining manipulation with the study of the theory.

## RURAL SCHOOLS OF SWITZERLAND.

These are, in general, schools in which manual labour occupies the chief part of the pupil's time, moral and intellectual training being mingled with it, and occupying the intervals of rest. The master of the school is the farmer, and the pupils are his family. Labour and instruction are carried on together, and the discipline is paternal. The arrangement implies that the pupils reside in the schools, which are in fact charitable establishments, since the pupils do not remain long enough, after their labour becomes profitable, to repay the expenses of their education and maintenance. The present organization of these schools is due to Mr. de Fellenberg, who first established a model school of the kind at Hofwyl, in 1806, and no less than twelve for boys and girls have been since established in the different cantons. At the meeting of the society for public utility at Geneva, in August of 1837, a report was made, highly commendatory of these establishments, and proposing, as a means of promoting their extension, a central seminary for the education of teachers for them; the importance of this suggestion will appear when it is seen how entirely the character of these establishments depends upon the qualities of the teachers, and how difficult it is to find suitable ones. The two for boys which I visited were Carra, near Geneva, and Hofwyl, near Berne.

## AGRICULTURAL SCHOOL AT HOFWYL.

The establishments for education at Hofwyl have attracted more attention probably than any other educational institutions in the world, and have become well known from the various reports made in relation to them.* At the time of my visit, in 1837, they consisted of a school chiefly for poor children, and called the Agricultural or Rural School, of a middle or real school for the education of youth not intended for the learned professions, of a boarding-school for the preparatory education for professional life, and of an agricultural institute, to the lectures of which pupils in the other departments only were admitted. All these establishments, requiring such different mental resources for their organization and management, were under the superintendence of Mr. de Fellenberg, their founder, and by whom the whole institution has been reared, without public aid.† At the time of my visit to Hofwyl, the middle school had assumed an important position, and was the most flourishing, probably, of the different establishments. As, however, the regulations did not permit as close an examination of this and of the boarding institute, within the time which I was able to devote to them, as of some other similar schools which I visited, I propose to confine the present notice to the agricultural school.‡ Not to lose, however, the advantage of the principles developed in these establishments, I shall place in the

* The most particular account, and that in which the spirit of the institutions is considered by their founder to have been best exhibited, is given by our countryman, Mr. W. C. Woodbridge, in the Annals of Education, published at Boston. Mr. Woodbridge resided at Hofwyl, and made himself thoroughly master of the minutiæ of the establishments.

† Mr. de Fellenberg is one of those rare instances in which, from motives of patriotism and benevolence, men occupying high stations by wealth and social position, devote their means, their time, and talents, to the promotion of education. I am not aware of any case in which equal sacrifices have been made as in that of Mr. de Fellenberg.

‡ In regard to this, Mr. de Fellenberg was good enough to put me in communication with an intelligent pupil (John Cavin), who had been ten months in the school, and who was then in the middle school, preparing as an instructor, under the patronage of an Irish nobleman, Lord Wallscourt.

Appendix, No. XI., some deductions of Mr. de Fellenberg from the experience of Hofwyl.

The pupils of the agricultural school are admitted at an early age, there being, however, no fixed limits, and are expected to remain until twenty-one, if supported gratuitously. By so doing, they would be enabled, by their manual labour, to repay the expense of their maintenance and education, so as to leave the institution without pecuniary obligation. They would, besides, be detained beyond what may be considered the most critical age. In practice, however, it is found difficult to induce this lengthened stay, the actual expediency of which must depend so much upon individual circumstances. In addition to the gratuitous pupils, others are taken, who pay, in part or entirely, for their education. Twenty is the usual number of gratuitous pupils, and at the time of my visit there were ten pay pupils besides; this number is essentially restricted by the plan of the school.

Formerly, the pupils were under the charge of a single teacher, for manual labour, instruction, and discipline. The teacher lived with them, and was expected to be their constant companion, adviser, and friend, as well as instructor. The first teacher of the agricultural school, Wehrli, was specially trained for the purpose by Mr. de Fellenberg, and executed the plan of the school in a way to produce commendation from all quarters.* It is easily seen that such a place would be most difficult to supply, and yet, that to preserve the original principle of organization requires absolutely that it should be supplied.

At present the arrangement is essentially different. The pupils work and live with the teacher, but receive instruction in the middle school. In summer, the time occupied in labour is from eight to twelve hours per day, and in instruction from two to four hours. In winter, the amount of labour is less, and of study more. At particular seasons in the summer, as during the time

* Mr. Wehrli is now at the head of the normal school at Kreuzlingen, in his native canton of Thurgovia.

of harvest and hay-making, the instruction is omitted altogether. In the winter, gymnastic exercises, in a degree, replace agricultural labour. Thus the character of the instruction is entirely changed from what the former records of the school represent it to have been. It was intermingled with work, and much of it incidental, the peculiar talent of Wehrli appearing to have displayed itself in improving every opportunity for communicating instruction of this sort. At present the intellectual and moral instruction, and the field-work, both assume a more formal character. The former plan appears to have been peculiarly well adapted to the Swiss character, and certainly produced happy results upon the youth educated under it, and, if I understood Mr. de Fellenberg aright, he is anxious to return to it when a suitable teacher shall have been obtained. In addition to ordinary farming, and labour, and gardening, the pupils are employed in an extensive dairy and a shop for making agricultural machines. They have, besides, in the agricultural institute, means of acquiring the theory as well as the practice of farming. The farming operations in which they assist are carried on to great advantage upon the extensive domain of Hofwyl.

They rise at five in summer, attend to the police of their dwelling-house, and unite in the prayers and lessons of the middle school; breakfast at half past six; are engaged in labour or instruction, with an intermission of an hour at noon for dinner, until six o'clock; sup, and are engaged in their lessons until eight; have prayers and retire to bed at nine. Their meals are served from the same kitchen, and are of the same quality with those of the hands upon the farm. On Sunday they rise at six in summer, breakfast at seven, attend prayers, study, and join the classes of vocal music with the pupils of the middle school until eleven, meet the other classes at chapel, where they have a sermon from a Protestant and Catholic clergyman, alternately; dine at twelve; have study and recreation until five, when they sup; are free until seven; have prayers and retire at eight.

The instruction received is in reading the German language and exercises of induction, four hours per week; arithmetic,

three hours; elementary geometry, or knowledge of forms, two hours; geography and the history of Switzerland, three hours; natural history and philosophy, two hours; religion and morals, two hours; writing, drawing, and vocal music, three hours.

Three hours per week are devoted to military drill, in which the pupils of the several schools are united. An admirable arrangement is made for bathing, by enclosing a copious spring, so as to form a reservoir with an overflow, by which the water is constantly changed. The depth is regulated so as to be adapted to the use both of those who can and others who cannot swim. A bathing-house, steps to enter the water, and apparatus of various kinds, for instruction in swimming, complete the arrangements.*

The discipline of this school is of a mild character; the elder pupils have much influence over the younger; and where the teacher is constantly with them, as in the former organization, his control is a substitute for regulations. In the beginning, the number of pupils admitted was so small that no one could escape the teacher's observation and kindly admonition; and when the numbers were increased, this spirit was propagated from the older pupils to the new comers.

In connexion with this rural school should be mentioned the establishment known as the Colony of Meykirk, placed several miles from Hofwyl, upon an uncultivated spot. The objects of this establishment were to demonstrate the possibility of rendering rural schools self-supporting, and that they might even be used as the means of improving the agricultural condition of the country. A spot of fifteen acres was selected, and a log house built upon it. The colony was opened with six pupils in 1827, and placed under the charge of a pupil of Wehrli's. The number was gradually increased. The instruction was made entirely incidental, agricultural labour being the first necessity for the

* The mode of teaching to swim is by a belt, which passes round the body, and is attached to a rope passing through a ring at the end of a bar of wood from which it hangs, and which acts as an elastic support. The length of the rope can be increased or diminished at pleasure, so as to afford a greater or less support. The more usual instruction, however, is given by the elder pupils supporting the younger on their hands.

colonists. Their mode of life was of the most frugal character, to an extent unpractised in our country; in the earlier periods they were supplied from Hofwyl, but were made to depend upon that source as little as possible. The school was discontinued a few years since, and all the accounts relating to it closed, when it appeared that during its brief existence the estimated improvements of the soil had been nearly adequate to defray the expenses of the school, over and above its receipts. This result, however, depended upon the peculiar location of the colony, since it is by no means common to such schools, even in Switzerland.

### RURAL SCHOOL AT CARRA, NEAR GENEVA.

This rural school was founded in 1820, by Mr. Pictet, and is still carried on upon part of the estate of his nephew, the syndic Vernet-Pictet. There is a similar establishment for girls in the vicinity, and under the charge of charitable ladies. The school at Carra belongs to subscribers, and is managed by a committee, of which Mr. Vernet-Pictet is president. The farm attached to it is forty acres in extent, and is worked, as far as practicable, by the pupils themselves. Of course, in the heavier parts of farming they require assistance. The master of the school is the head farmer, as well as schoolmaster and father of the family. Agricultural labour is the business of the pupil, and instruction fills up the intervals. The pupils enter at about eight years of age, and remain until from eighteen to twenty. During the latter years of their stay, their work begins to be profitable to the establishment, and they are even sent to work in the neighbourhood, or, as is found more advisable, the school does the work of a neighbouring farm on shares. On the average, however, the manual labour produces but about one-third of the expense of the pupil.

The style of living is so plain, that the whole cost of the pupil amounts to but little more than ten cents per day. The society supports twenty-five boys of different ages, who live with the master and his family. During the winter, basket-making and other handicraft labour is added to their employments, and the

older pupils go to market with the produce of the farm. They receive an elementary education, consisting of religious instruction, reading, writing, accounts, mental arithmetic, geography, and Swiss history. The master was educated under the celebrated Wehrli. It is plain that, as the master is at once the head of the family and instructor, the character of the moral, intellectual, and physical culture of the pupils depends entirely upon him; when it is further considered that a great part of the instruction is incidental, so that no precise rule can be laid down, even as to the time when it is to be given, it is quite as obvious that the whole results of education depend upon his tact, temper, judgment, and other personal qualities, and upon his preparation for this difficult task. Since the foundation of the school, about sixty-seven pupils have been attached to it; of these, twenty-four have passed through with approbation, twenty-seven were in the school in 1837, and sixteen have been withdrawn. Of twenty pupils for whom places were found by the directors, after six years residence in the institution, twelve were apprenticed as farm-servants or gardeners, three as schoolmasters, two as house-servants, and three, who had not adequate strength for country work, to tradesmen. The committee complain of the difficulty of keeping young men, even thus brought up, in the country, contrary to the general tendency towards the towns.

## AGRICULTURAL SCHOOL OF TEMPLEMOYLE, NEAR LONDONDERRY.

The Agricultural School of Templemoyle was established by the Northwest of Ireland Agricultural Society, in 1827.* It is

* I am indebted for a most favourable introduction to this school to Sir R. Ferguson, of Derry, one of its most active managers, and had the good fortune to meet there Captain Kennedy, of Lough Ash, the manager of a large estate, in a wild district, where he is pursuing plans for the elevation of the peasantry, which must produce the happiest results. The improvement of his tenants is in an increasing ratio with the time of their residence on his estate. His school, saving-fund, and bazaar, where articles of use are sold at cost; his arrangements for leases, loans, agricultural instruction, and moral and religious culture, are all admirably conceived, and executed with a zeal beyond my praise. I do not

situated in a healthful and picturesque part of the county of Londonderry, about six miles from the city. At the same time with this school, the subscribers established one for the education of mercantile and professional men, not far from Templemoyle, expecting that the latter would prove profitable in a pecuniary point of view, and thus yield assistance for the support of the former.* The idea was, however, not realized, and after a considerable expense in its establishment, the higher school was abandoned, and all the efforts of the subscribers concentrated upon the agricultural school. The plan of Mr. de Fellenberg's establishment was thus taken as a model, but, under the different circumstances of the case, proved a decided failure.

The agricultural school is designed for the education of the sons of farmers, or of young men intended for farming occupations, either on their own account, or in the employ of others. It aims at giving them a plain English education, and a knowledge of the principles and practice of agriculture.

Pupils are admitted at or after fifteen, and should remain in the school during a period dependent upon the age of admission, but as they are pay scholars, they may be removed at any time by their parents. The sum paid for education and maintenance† is not adequate for their support, and yet is so high as to limit essentially the number of pupils which the institution actually receives. In the spring of 1836 there were thirty-three in the school, but in the autumn, this number was increased to sixty-six, by the pupils sent by the commissioners of woods and forests and by societies. The buildings can, however, furnish accommodation for upwards of one hundred. The school has educated, since its establishment, one hundred and

know that I have been ever more impressed with a sense of philanthropic exertion, than by a visit to Lough Ash.

* To establish the schools, one hundred and sixteen shares of one hundred and twenty-five dollars each were subscribed by different companies and individuals, and six thousand dollars were subsequently subscribed for the erection of the buildings at Templemoyle. Various other donations and annual subscriptions have been made.

† About fifty dollars per annum, ($48.66.)

seventy-eight youths, from different parts of Ireland and from Scotland.

The direction is vested in a committee of the subscribers. The immediate control is divided between the agricultural master, or farmer, who regulates the agricultural labours, the school-master, who divides the time of the pupils with the farmer, and the matron, who has charge of the domestic economy of the establishment, under the direction of the farmer and instructor. A working-gardener has lately been added, and a piece of ground laid off to be cultivated by the pupils under his direction.

At half past five the pupils rise, arrange their rooms, say their prayers, and, in two divisions, which alternate on different days, are engaged until eight in study, or in work; half the pupils are with the farmer, and half under the school-master, except on extraordinary occasions, when the services of all are required for the farm, or the season releases them from their agricultural duties. At eight they breakfast, and are free until nine; work and attend school, in alternate divisions, from nine until one. Dine at one, and have recreation until two. From two to six, are at work and in school alternately. From six to seven, sup and have recreation. From seven to nine, prepare the lessons for the next day, have prayers, and retire at nine. On Sundays they attend their respective places of worship, and occupy a part of the remainder of the day in religious reading.

The intellectual instruction consists in spelling, reading, grammar, geography, arithmetic, writing, and book-keeping, with some elementary and practical geometry, and trigonometry. The farmer gives lectures also in the evening, upon the theory of agriculture. It is intended to introduce lectures on botany and agricultural chemistry.

The practice includes all the operations of farming, under the different approved systems, the rearing of cattle, the management of a dairy, and, in general, the incidental as well as the direct occupations of the farmer or agricultural labourer. The head farmer, or agricultural master, is expected to explain the principles of the work in which the pupils are engaged, and to

take opportunities for incidental instruction. The operations which he is specially called upon, in the regulations of the committee, to teach, are, ploughing and the setting of the plough, the use of farming instruments in general, the qualities of stock and modes of recognising them, the treatment and management of dairy and farming stock, the making and repairing of fences, the rotation of crops and those best adapted to different varieties of soils, the modes of draining, reclaiming, and improving lands, and the most recent inventions and improvements in agricultural implements. The farmer takes those who are sufficiently advanced in knowledge and age to be benefited thereby, to the fairs, to assist in the sale of the products of the farm and stock.

The pupils are divided, for work, into sections, each of which has its monitor, or chief, and consists of eight or ten boys. The head monitor, or superintendent, has the control of them, in the absence of the master, and arranges with him the distribution of their time, takes an account of the stock, and of the products of the labour, and advises with the master in regard to the farm, in such a way as to prepare himself for actual superintendence. This place is occupied by the elder pupils in rotation.

The farm consists of one hundred and thirty-three acres,* of which one hundred and twenty-five are arable land. It is worked so as to present examples of the most approved rotation of crops, the fields embraced in the same series of shifts lying adjacent to one another. The whole is drained by under-ground drains, according to the Scottish system, and is well enclosed with different fences as specimens, and trials of the various kinds. The house is substantially built, and contains a school-room, refectory, dormitories, sitting-room, and apartments for the masters, all arranged in the plainest manner, with the out-houses proper for a farm. The garden is laid out for vegeta-

* A plot of the ground, as surveyed by the pupils, and drawn by one of the number, was presented to me, showing the details of the arrangement, and the classification of its parts. The construction of this drawing was one of the practical exercises of the class.

tables, fruits, and flowers, and portions have been sown with the various grasses, to exemplify their growth and uses.

The discipline of the school is believed to be good, and to be administered with little difficulty. It depends mainly upon the administration of a code of rules by the two masters and matron, and is, therefore, essentially different in spirit from that of the Swiss rural schools. The scale of the institution is also, in all respects, larger, and the character of the education approaches much nearer to that appropriate for a school for special instruction, as does also the age of the pupils at admission. These circumstances should, of course, modify materially the system, even if the character of the pupils was the same.

The domestic economy is simple, and the fare substantial, but very plain. It is remarkable that, with the simplicity of the life, and the age of many of the pupils, some of them being quite men, this school has not yet managed to support itself, even including in the account the payment made by the pupils. It still requires the aid of subscriptions, which, however, are secured to it by a conviction of the general benefits resulting from it. The highest testimony to the usefulness of the pupils who have been educated here, is borne by those who have employed them in their service.

## MANUAL LABOUR SCHOOL AT EALING.

There have been, of late years, many independent efforts in different parts of England to establish schools upon principles better adapted to the wants of the labouring agricultural classes than the ordinary day schools. An attempt was made, in 1833, to form a society,* the object of which was the establishment of a model school for industrial schools for the peasantry, and the union with it of a school for the education of teachers for similar establishments. The attempt was unsuccessful in reference to the society, but a benevolent lady undertook to carry out the plan, in regard to the model school, at her own expense. The

* See an excellent memoir on Industrial Schools for the Peasantry, in the first publication of the Central Society of Education in London, by Mr. Duppa, secretary of the society.

new school was established at Ealing, a village about five miles from London. It was intended to combine manual labour, chiefly gardening, with instruction in the usual elementary branches, but to introduce the later improvements in the modes of elementary teaching. The task of finding a master capable of filling such a place was obviously no easy one, and the necessity for employing a teacher imbued with the routine spirit of the common village schools, has, no doubt, retarded the development of the plan. I saw enough during my visit to this school to be persuaded that, when in full operation, according to the original idea, its results must be of considerable importance, and that even in its present imperfect state, the school is highly beneficial to the rural district in which it is situated. It is an attempt to adapt the spirit of the Swiss rural schools to the circumstances of the English peasantry. "Its leading principles are, that the children should early acquire habits of patient industry; that they should be acquainted with the value of labour, and know the connexion between it and property; that they should have intelligence, skill, and an acquaintance with the objects by which they are surrounded; that the higher sentiments, the social and moral part of their being, should receive a full development."*

Habits of industry are promoted by labouring in the garden attached to the school-house. This is divided, one portion being reserved for the use of the school, another being subdivided into small gardens for the boys. The pupils work in the first under monitors, and receive a compensation in proportion to the useful results of their labour. The second they hire at fixed rates, and dispose of the produce as they please, always receiving, however, the market price for it from the school, if they choose to dispose of it there. The younger children are not allowed to undertake gardens on their own account, but work for others or for the establishment. Partnerships are sometimes formed among them for the more advantageous cultivation of larger pieces of ground. At the pe-

* See the article before referred to, and which is official.

riod of my visit, the gardens were planted with vegetables and flowers, and many of them tastefully arranged. All exhibited an appearance of neatness, and during the hours of work the renters appeared busily occupied. The best order reigned among all the children. An occasional simple song was sung in the group who were working for the school, under the direction of a monitor. The master directs the whole, and to his suggestions they are indebted for many improvements; it is their privilege to resort to his counsel in cases of difficulty. The school furnishes the working-tools, which for the youngest children are merely a hoe and rake. They have also in-door work for bad weather, consisting of carpentry, the making of wooden shoes, &c. I was told that the room for containing their gardening-tools, where there is also a trough for washing, had been fitted up by the pupils, and they have shown considerable ingenuity in the repairs of the out-houses attached to the school, and have even entirely constructed one of them. In the beginning a gardener was employed to teach the boys, but this is now done by the master and monitors. An account current with each pupil is kept, in which he is charged with the rent of his ground, and the seeds and plants which he has purchased from the stock, and credited with the produce which he has sold to the school. Some of the pupils have a considerable surplus on the credit side at the end of the year; one lad is stated to have gained nearly ten dollars from a sixteenth of an acre;* another, of thirteen, to have gained nearly five dollars and a-half, from the gardening between March and November; another, of fourteen, five dollars; and a third, of eleven, the same sum. It is the duty of the master so to arrange that the pupils may not lose, unless by providential circumstances; not to intrust, for example, a youth with the charge of a garden before his capability to manage it is sufficiently proved; and not to allow extravagances or glaringly injudicious measures on the part of the little gardeners. The tendency of these

* They pay six cents per month to the school as rent for this quantity of ground.

measures is, incidentally to train to habits of respect for property, of honesty, fair dealing, and mutual assistance, quite as valuable as those of industry. The time employed in manual labour by the elder pupils is three hours, and to this is added three hours and a-half of intellectual instruction. The younger boys are four hours and a-half in school. It would be unfair to compare a school, where the pupils have been so recently brought under instruction, with others of longer standing; hence I would only remark, that the theory of the intellectual instruction was much better than its practice, and express the opinion that the same enlightened superintendence which has accomplished so much, will probably work out satisfactorily all the details of the plan. The mechanical parts of a new project are always more easily realized than the intellectual. When the young men now training up as teachers in this school shall, in their turn, come to improve the practice which they witness, there can be little doubt of the success of the intellectual department. The greatest novelty is that which has already proved successful.

### LA MARTINIÈRE SCHOOL OF LYONS.

This school was founded in pursuance of the will of a citizen of Lyons, M. Martin, who left the French army while in Syria, went to India, and entered the service of one of the native princes. He acquired a very large fortune, and at his death left a considerable portion of it to found three charitable institutions, two in India and one at Lyons. The war with England prevented, for a time, the acquisition, by the city of Lyons, of their portion of this legacy, which, when it came into the treasury, amounted to more than four hundred thousand dollars. With this the municipal council determined to found a school for the working classes, and that its benefits might be extended as widely as possible, made a day school of it. The chief object of the institution is to train up an educated class of workmen for the manufactories. The arrangement of the courses has been governed by two principles, the first, to fulfil the object just stated: the second, to avoid the danger of de-

feating it by over education. Pupils enter at the age of ten, and the elementary attainments in language which they may have made before admission, are rather kept up than extended. Thorough scientific courses, form the basis of further education, giving them entirely a practical turn, and studiously avoiding the speculative. The experience of the school, which has been in full activity only five years, is not yet sufficient to show how far the plan will attain the ends proposed; but it affords at present some of the best illustrations of exact teaching of science which I have ever seen. In regard to these I shall enter into some particulars, prefacing them by a general notice of the establishment.

The school is governed by trustees, chosen by the municipality of the city of Lyons, and constituting a board, which regulates all the concerns of the institution, and appoints its officers. The trustees choose committees from among the citizens to attend the examinations and to distribute the prizes for excellence in the different departments. The selection is made from those who are supposed best acquainted with the branch under examination.

Pupils are admitted between ten and fourteen years of age, and remain two, or in special cases, three years. They are expected to be familiar with the studies of the primary schools before entering.

The course of instruction is divided into two parts, the first general, the second special. The general course consists of mathematics, drawing, writing, and French, the last two named being intended merely to keep up the attainments made in the primary schools. The special courses are of chemistry and weaving. These latter are not obligatory; the choice as to whether the pupil will pursue one or other of them, or not, being left with his parents. The object of restricting the courses of writing and French, is to prevent the tendency to leave the more laborious occupations, towards which the institution would direct its pupils, for situations as clerks, &c.

The course of mathematics extends through the two years,

and embraces arithmetic, algebra to quadratic equations, practical geometry, descriptive geometry, and mechanical problems. There are two classes, each under a professor, who is assisted by a "repeater" (repetiteur), to go over the lessons, and to exercise the pupils in examples. I have not seen the simultaneous method of instruction so well practised elsewhere as in the course of mathematics of the higher class. Each pupil had a small black-board, on which he wrote with prepared chalk, and at a word from the professor the question was written down, and its results shown, after solution. The rapidity and accuracy of the solutions,* and the large proportion of the class who were able to solve the questions, showed that they had been thoroughly taught, and the best possible order resulted from the manner of executing the class movements together, at the word of command. To construct in space the problems of descriptive geometry, relating to the right line and plane, each pupil had a small tablet of wax, and rods of wire of different lengths. All the introductory definitions, as well as the problems, were required to be illustrated by these contrivances, and the problems themselves to be constructed in space before recourse was had to projections. As an introduction to this exercise, the propositions in the fifth book of Legendre's geometry are constructed in a similar manner. The pupils are engaged in their mathematical studies two hours a-day with a professor, and two hours with a "repeater," or under monitors from the class.

The course of drawing also occupies two years. The pupils draw altogether from models, beginning, as in the Prussian

* Among the questions were these:—The cube root of 3.333 to three places of decimals, was found in three and a-half minutes. The radius of a sphere of 532 cubic centimetres in capacity, was found in three-quarters of a minute. The capacity of a sphere was given at 513 cubic centimetres, and its specific gravity at 19, the weight was found in three and a-half minutes. In the equations $2x-4y=20$, and $3x+5y=50$, the values of $x$ and $y$ were found in three minutes. The condenser of a steam engine being supposed to contain 3.25 kilogrammes of steam, required the quantity of water at 4° C., to reduce the steam to 25° C., this question was solved in two minutes.

method, with the most simple forms, going into the delineation of complex machinery, and making projections as well as perspective drawings. They begin upon slates, but soon learn to draw upon paper. In general, instruments are not used, even when they come to machine drawing. When I visited the school, a part of the upper class was engaged in completing the perspective of a model of a steam engine, for an approaching competition for places. The results of this course also appeared to me very satisfactory. These lessons occupy two hours every day.

Chemistry is taught practically in the laboratory, and at an hour (from seven to a quarter past eight, A. M.) which does not interfere with the other courses. The class is divided into two sections, each of which has its set of apparatus, and goes through the preparation and execution of the principal experiments and illustrations of a course of chemistry as applied to the arts. They are particularly exercised in the chemistry of dyeing and bleaching. The facility in the detection of mineral salts, which the pupils in general displayed, showed the efficiency of this method. Habits of observation and exactness, as well as skill in manipulation, are gained by the instruction.

Weaving is taught theoretically as well as practically, with special reference to the silk manufacture. Whoever has become acquainted with the use of the Jacquard loom, will see that there is abundance of room for calculation in regard to its combinations. There are several looms, to afford opportunity for practical exercise. This branch, also, is taught at an hour (half past five to seven, P. M.) which does not interfere with the other instruction.

There is also a course of exercise in the manipulations of physics, the institution possessing, besides an extensive collection of apparatus and of models of machines, a number of small sets of the commoner apparatus for the use of the pupils. Writing and French occupy one hour every day.

The manner in which all these courses are taught, makes

them more really valuable, as a means of general mental cultivation, than might at first be supposed, from the limited range of the subjects. The resources of intellect, knowledge, and general manual dexterity, furnished by them, must be of incalculable value in the particular callings for which the pupils are educated.

# CHAPTER IX.

## SEMINARIES FOR THE EDUCATION OF TEACHERS FOR THE PRIMARY SCHOOLS.

The influence of these establishments upon the primary schools is so great that, though the pupils are, even on entering them, past the primary period in age, this seems to be an appropriate place for the introduction of descriptions or notices of them. Originating in Germany, they have been gradually improved there, and brought into their present condition, and have spread into Holland, France, Switzerland, and, more recently, into England, being modified only so far as to adapt them to the circumstances of society and education in these several countries.

The most imperfect arrangement for providing teachers is that which requires an examination into merely the knowledge of the candidates in the branches required to be taught. This is specially imperfect in the case of elementary instruction, where the knowledge required is small in amount, and where the art of teaching finds its most difficult exercise. The erroneous notion, that an individual can teach whatever he knows, is now generally abandoned, and in those countries which still adhere to the old method, of depending solely upon examinations for securing competent teachers, examination is made not only of the acquirements of a candidate, but of his ability to give instruction. I have called this the most imperfect method, because the mere employment of a teacher, without examination or personal knowledge of his powers, which still occurs in countries where education is neglected, does not deserve to be mentioned in a discussion of the more enlightened national systems.

The most obvious method of acquiring practice in the art of

teaching is by serving in the lower departments of a school, under the eye and direction of an experienced teacher. Accompanied by private study, founded on previous knowledge, and by private lessons, this method may form excellent teachers of those who have particular aptitude for the profession. Considered in the general, however, it must be admitted to have a tendency to produce a routine system in teaching. The pupil-teacher imitates the methods of those with whom he is associated, and which are placed before him as models, without examining their principles, or discriminating between their merits and defects. He places great stress upon peculiar modes of instruction in particular branches, and when they do not succeed, attributes the fault neither to the methods nor to himself, but to the pupil. The habits of observation and reflection, which enable him to profit by experience, are not developed by this method, and thus, though he may consider experience as a merit, it may produce none of its appropriate results in his case. Accordingly, wherever this mode of preparing teachers has been adopted as a system, as in Holland, or has been incidental to the method of examinations, as in Saxony, it has not stood the test of application in the schools where the modern improvements in teaching have been introduced, much less of a comparison with the method of instruction in special seminaries.

The most efficacious means of securing qualified teachers are to be found in the seminaries where a number of young men intending to become teachers are collected, receive a common instruction in the subjects required for the grade of schools in which they propose to teach, or revise and extend this knowledge previously acquired, have lessons in the science and art of teaching, and practice the art under intelligent supervision. At first, these seminaries produced good scholars, who were, however, deficient as teachers. Then, to remedy this defect, lectures and lessons on the science and art of teaching were multiplied, forming good theoretical teachers, but who were still wanting in practice, which had to be acquired after entering their profession, and, therefore, at the expense of the first pupils placed under their charge. This difficulty is entirely

obviated by schools attached to the seminaries, in which the theoretical lessons may be put in practice, and where the future teachers may observe the methods of others, try their own skill in the art under inspection, and, finally, take part in the regular instruction.

The profession of the teacher is raised into respectability by the considerable acquirements exacted of him, and his salary is placed upon a footing appropriate to the outlay of time and means which has been made in reaching the profession. It is a mistake to suppose that the low salaries given in some countries, as in Prussia, for example, indicate that a low estimate is placed upon the station of the teacher; the very reverse is the fact in the particular country mentioned, and the salary will be found adapted to the scale of expenditure of the country, and to the general style and cost of living.

When education is to be rapidly advanced, seminaries for teachers afford the means of securing this result. An eminent teacher is selected as director of the seminary, and by the aid of competent assistants, and while benefiting the community by the instruction given in the schools attached to the seminary, trains, yearly, from thirty to forty youths in the enlightened practice of his methods; these in their turn become teachers of schools, which they are fit at once to conduct without the failures and mistakes usual with novices; for, though beginners in name, they have acquired, in the course of the two or three years spent at the seminary, an experience equivalent to many years of unguided effort. This result has been fully realized in the success of the attempts to spread the methods of Pestalozzi and others through Prussia. The plan has been adopted, and is yielding its appropriate fruits in Holland, Switzerland, France, and Saxony, while in Austria, where the method of preparing teachers by their attendance on the primary schools is still adhered to, the schools are stationary, and behind those of Northern and Middle Germany.

These seminaries produce a strong *esprit de corps* among teachers, which tends powerfully to interest them in their profession, to attach them to it, to elevate it in their eyes, and to

stimulate them to improve constantly upon the attainments with which they may have commenced its exercise. By their aid a standard of examination in the theory and practice of instruction is furnished, which may be fairly exacted of candidates who have chosen a different way to obtain access to the profession.

Objections have been urged against seminaries for teachers, which apply rather to a defective organization than to the system itself. First, that the youths issuing from them being over-taught, are, in consequence, dissatisfied with their duties, and leave the profession to push themselves forward in a different career of life; and, second, that theoretical, not practical teachers, are formed by them. The first objection points out the necessity for restricting the instruction to that which is essential to a complete fulfilment of the duties of the teachers educated in these schools. The seminary should not go further, and hence the connexion of such establishments with secondary or other higher schools is inadmissible. If the tendency of a seminary course is to render the teacher dissatisfied with his occupation, experience shows that it is a fault in the particular course, the defect not being general to this class of institutions. That a pupil of talent may seek other and more congenial roads to station in life, is no reproach to the seminary where he was educated. The institution secures the services of this pupil to primary instruction by his pledge at entrance, for a number of years, in return for the education which he has received, and has so far benefited the community. If by any means it prevents the individual from rising to the position where his talents would place him, an act of positive injustice is committed. Not only the instruction, however, but the whole plan of living in the seminary should be adapted to the future destination of the pupil, and indulgences should not be allowed which would produce wants not subsequently to be gratified; such is, in fact, the very system of all properly regulated institutions of this class. That mere theoretical teachers are formed in well conducted seminaries, is by no means the fact. Every care, on the contrary, is taken to avoid this: it is true, that general principles

are inculcated, in order that routine in teaching may be avoided, but these principles are constantly applied, and under circumstances where error is sure to be pointed out by the observation of class-mates and teachers, and where it can hardly escape correction.

The question, whether the pupils of these schools should reside, in common, in the buildings, or board apart from each other, and merely come together to receive instruction, appears to me not to admit of a general solution applicable to every case. The manners and habits of a country, and even the locality of the school, will render one or other method preferable in a particular case. Thus, I have no doubt that the arrangements of the seminaries at Weissenfels and at Berlin, in Prussia, at Haarlem in Holland, at Versailles in France, and at Zurich in Switzerland, though they differ from each other, are all adapted to the countries and particular localities where the institutions are established. It will be my object to make such a selection from among the best schools of this class which I visited, as will show some of their principal varieties. The general statistics in regard to them have been given in the introductory remarks upon the systems of primary instruction in the different countries, and need not, therefore, be presented here.

## PRIMARY NORMAL SCHOOLS OF PRUSSIA.

Of the very interesting schools for the education of primary teachers in Prussia, I visited several, namely, those at Mœrs, in the Rhenish provinces, of Weissenfels and Erfurt in the province of Saxony, and of Potsdam and Berlin in the province of Brandenburgh. These are all of the class called "principal normal schools." The "small normal schools" are exclusively for the education of country teachers, and present, on a diminished scale, and with incomplete means, the same general principles with the others.

There is no general code of regulations for the normal schools, the practice being to select some teacher of known merit and tried skill for the head master or director of the institution, and to leave the organization to him, under the con-

trol of the provincial authorities. I have selected, as representing this class, an institution in which the pupils live in common, and another in which they board out of the school. It would be more agreeable to me to give the particulars collected in each of those which I visited, but this would be impossible within the limits of my Report. I can truly say of this class of institutions, that I never visited one without being interested and instructed, and never made the acquaintance of the director of one of them without feeling that his place was worthily filled, and that it was wise to have such a man as much untrammelled by rules, regulations, and systems, as possible.

While these institutions hold out advantages to young men intending to become teachers, other avenues to the profession are not closed by them; on the contrary, all who can stand the required examinations may enter this career. Every year an examination is held at every "principal seminary" for those who intend to leave it, and of other candidates for admission to the teachers' profession. This examination takes place in presence of the teachers, of one or more commissaries named by the provincial school-board, and of a school-councillor of the regency in which the seminary is situated. The authorities of the province and regency also hold, about the same time, an examination for those who have studied at the universities, frequently candidates in theology, who intend to become teachers in the primary schools. The director of the seminary forms one of this board.* The law requires that those who have appeared feeble at this trial, shall be examined three years subsequent thereto.

The examinations are of three kinds: in writing, viva voce, and by practical exercises of teaching. The written examination of candidates from the seminary, and of others who have not passed through a gymnasium, consists in answering some ten or twenty questions in history, geography, natural philo-

* Ministerial orders of June, 1826, and March, 1827, quoted by Dr. Harnisch in his account of the seminary at Weissenfels (Das Weissenfelser Schullehrer seminar und seine hülfsanstalten, 1838,) to which I am indebted for the account of the examinations.

sophy, natural history, arithmetic, and from the Bible. Besides which they set a bass to an air given for the purpose, and execute a drawing. The character of the handwriting appears from the exercises. The viva voce examination embraces the German language, reading, mental arithmetic, geometry, the art of teaching, and the reading of music. The exercise in teaching consists in giving a catechetical lesson upon some subject assigned by the examiner. The student-candidates (Literaten, oder Studirten), and those examined for a second time, are questioned especially in regard to practical teaching. The candidates are divided, according to the results of the examination, into three classes, entirely satisfactory, satisfactory, and unsatisfactory. The subjects of examination are enumerated as follows: 1. Christian doctrine and explanation of the Bible. 2. Knowledge of the Bible and Bible history. 3. German language. 4. Style. 5. Reading. 6. Writing. 7. Mental and written arithmetic. 8. Geometry. 9. Natural philosophy and natural history. 10. Hygiene and gardening. 11. History of the earth and its inhabitants. 12. Drawing. 13. Vocal music. 14. Science of teaching. 15. Readiness in teaching. Besides which are, in addition, 1. Skill in playing on the organ. 2. Propriety in leading church music. Of the above named subjects, number 15 is considered the principal; the first seven constitute the more important, and the last seven the less important. When a candidate has been marked "entirely satisfactory" in all the branches, he receives a general mark of the same kind; when only in 15, and the first seven branches, the general mark satisfactory. A failure in one of the more important branches, would require a general remark of unsatisfactory.* The results of these examinations afford a direct means of comparison between the young teachers educated in the seminaries and others, and serve to stimulate both classes, and especially to point out defects where they exist in the schools for teachers.

* Order of the Provincial School Board, November, 1834, quoted by Dr. Harnisch in his account of the seminary at Weissenfels.

### SEMINARY FOR TEACHERS AT WEISSENFELS.

This seminary, for the education of teachers for the elementary schools, is one of four belonging to the province of Saxony,* and was last organized in 1822. It combines within its premises, or in the neighbourhood, so as to be subject to the control of the same director, the following establishments: 1. The normal school, or seminary for teachers, a government institution. 2. A preparatory school subsidiary to the former, and established by the enterprise of its teachers. 3. A seminary school, or burgher school, of four hundred pupils, already described. 4. An elementary school for poor children, of two hundred pupils. 5. A school for the deaf and dumb, of twenty-five pupils, established in 1828, and supported by the government. The last three mentioned schools afford practice to the students of the seminary.

The government of these establishments is confided to a director,† who is responsible immediately to the provincial school-board in Magdeburg. He has the personal charge of the seminary in which he gives instruction, and of which he superintends the domestic economy, discipline, and police. He is assisted, in the seminary, by three teachers, who meet him once a week in conference, to discuss the progress and conduct of the pupils, the plans of instruction, and other matters relating to the school. There are also seven assistant teachers, five for the seminary school, and two for the deaf and dumb institution, who also assist in the seminary itself. Once a month there is a general meeting of the teachers of all the schools just enumerated, for similar purposes.

Applicants for admission are required to produce certificates of baptism, of moral conduct, and of health,‡ besides an engagement on the part of their parents or guardians to pay an

* At Magdeburg, Halberstadt, Erfurt, and Weissenfels.

† The Rev. Dr. Harnisch, to whom I am indebted for a kind welcome to his institution, and a MS. account of its different schools.

‡ The directions issued by the provincial authorities are, that they shall have a strong chest and sound lungs, not be too near-sighted, nor deaf, nor infirm. The physician's certificate must state whether they have had the measles, &c.

annual sum of fifty thalers (thirty-seven dollars) for maintenance. These papers must be forwarded to the director a fortnight before the day of examination. The candidates are examined at a stated time of the year (after Easter), in presence of all the teachers of the school, and their attainments must prove satisfactory in Bible and church history, the Lutheran Catechism, reading, writing, German grammar, especially the orthography of the language, the ground-rules of arithmetic (mental and written), geography and history, and natural history and philosophy, of the grade of the highest class of a burgher school. They must also be able to play, at sight, easy pieces of music upon the violin. The usual age of admission is eighteen, and the lowest at which they are admissible, seventeen. On entrance they are entitled to free lodging and instruction, and if their conduct and progress are satisfactory, in general, receive a yearly allowance of twenty-five dollars, which is equivalent, nearly, to the cost of their maintenance. Their clothing and school-books are provided by the pupils. The modes of preparation judged most appropriate by the authorities of the seminary are, the attendance on a burgher school, with private lessons from a competent teacher, or entrance into the preparatory establishment at Weissenfels. A gymnasium is considered by no means a proper place for the preparation of pupils, its courses, discipline, and mode of life having a different tendency from that required by the future teacher of a common school.

The admission of new pupils takes place with some ceremony, in presence of the teachers and pupils. The director gives a charge, in which he makes them acquainted with the rules of the school, chiefly those relating to moral conduct, to obedience to the authorities, punctuality, regular attendance at study, school, church, and, in general, on the appointed exercises, due exertion, neatness in their habits, and exactness in the payment of dues to the tradesmen with whom they may deal. They bind themselves to serve for three years after leaving the school, in whatever situation may be assigned them by the regency of Merseburg, or to pay the cost of their

education and maintenance. During their stay at the seminary, they are exempted from military service, except for six weeks; in fact, this service usually takes place at leaving the school, and before entering upon their new career. The number of pupils, on the average, is sixty.

The courses of instruction are, morals and religion, German, arithmetic and geometry, cosmology, pedagogy, terraculture, hygiene, theory and practice of music, drawing, and writing. Cosmology is a comprehensive term for geography, an outline of history and biography, the elements of natural history and natural philosophy, all that relates to the world (earth) and its inhabitants. Pedagogy includes both the science and art of teaching. The courses just enumerated are divided among the masters, according to the supposed ability of each in the particular branches, the whole instruction being given by the four teachers. The director, as is customary in these schools, takes the religious instruction, and the science and art of teaching, as his especial province, and adds lectures on the theory of farming and gardening (terraculture), and of health.

The duration of the course of studies has been reduced from three years to two, on account, as is alleged, of the necessity for a more abundant supply of teachers. There are, probably, other reasons, such as the expense, and the fear of over-educating the pupils for their station, which have been influential in bringing about this reduction. There are two classes corresponding to the two years of study. The first year is devoted entirely to receiving instruction, and in the second, practice in teaching is combined with it. In the preparatory school there is likewise a course of two years, and the pupils are divided into two classes. This establishment is in a building near the seminary, which can accommodate forty pupils, and is under the special charge of one of the teachers.*

The outline of the studies in the two schools is as follows:

* The payments made by the pupils are, per annum, for instruction, nine dollars; for dinner, bread not included, thirteen dollars and fifty cents; lodging, three dollars, waiting and nursing in time of sickness, one dollar and seventy-five cents; use of library, fifty cents.

*Religious Instruction.*

PREPARATORY SCHOOL.

II Class. Bible stories, which the pupils must be able to narrate with propriety. Christian doctrine. Portions of Scripture committed to memory. Four hours weekly.

I Class. Reading the Bible, especially the historical parts. Krummacher's Bible Catechism. Christian doctrine. Parables of the New Testament. Seven hours.

In the lectures on Christian doctrine, which the two classes of the normal school attend together, the director gives a portion of Scripture to be committed to memory, explains and illustrates it, and interrogates the pupils, who take notes of the lecture, which they subsequently write out.

NORMAL SCHOOL.

II Class. Reading the Bible, particularly the historical parts; writing catechetical exercises, adapted to children. Two hours.

I Class. Continuation of the second class course. Two hours.

I and II Class. Christian doctrine, from Luther's Catechism. Three hours. History of the different dispensations. Two hours. A course of two years.

The course of church history is taught, also, by the mixed method of lecture and interrogation, to both classes united.

*German Language.*

PREPARATORY SCHOOL

II Class. Exercises of speech in reading and delivery. Descriptions and essays on subjects drawn from common life. Grammar. Writing as an exercise in calligraphy and orthography. Nine hours.

I Class. Reading, with explanations. Composition. Grammar revised. Writing, as in the second class. Nine hours.

NORMAL SCHOOL.

II Class. Reading, with explanations. Writing, as an exercise of calligraphy and orthography. Exercises of style. A composition once every month. Essays from history, geography, or natural history. Grammar revised. Eight hours.

I Class. Poetry, with readings. Calligraphy. Exercises of style. Grammar revised. National literature. Seven hours.

The first and second classes are united for a portion of instruction in this department, intended to rid them of provincialisms of speech, and to improve their handwriting. Three hours.

*Mathematics.*

PREPARATORY SCHOOL.

II Class. Arithmetic, including the Rule of Three. Three hours.

I Class. Arithmetic, revised and extended. Use of compass and ruler. Four hours.

NORMAL SCHOOL.

II Class. Geometry, commenced. Four hours.

I Class. Revision of previous studies. Geometry, continued. Two hours.

The method of teaching mathematics is that of Pestalozzi; and director Harnisch has himself prepared a work on geometry for his pupils. The applications are made to follow the principles closely. As in the other courses, the greater part of the learning is done in the school-room, the books being used rather for reference than for preparation. In the lessons which I attended in this department, much skill was displayed by the instructors, and a very considerable degree of intelligence by the pupils. Considering it as the means of developing the reasoning powers, this method is very far superior to that in which the propositions are learned from books. To exemplify the method of Dr. Harnisch, I may state the following case of a recitation in geometry by the second class. The equality of two triangles, when the two sides and the angle contained between them in one are equal respectively to the two sides and the contained angle in the other, had been shown by the teacher, and the demonstration repeated by the pupils, who were interrogated closely upon it. An application of the theorem was at once required, to determining the distance between two points, one of which is inaccessible. Two of the class found the solution immediately, and all were able to take part in the subsequent discussion of the problem.

*Cosmology*, (Weltkunde.)

PREPARATORY SCHOOL.

II Class. Elements of botany and zoology. Excursions for practical instruction in the former. Four hours.

I Class. Geography and the drawing of maps. Elements of physics and technology. Biography. Three hours.

NORMAL SCHOOL.

II Class. Revision of the above studies. Three hours.

I and II Classes united. General views of the earth and its productions and

inhabitants. One hour weekly for one year. Gardening and hygiene (Gesundheitskunde). Two hours weekly for two years.

The lectures in the normal school on these subjects are by the director. The means of illustration in physics are small, and the whole course is chiefly intended to show the future teachers how wide a range of knowledge may be opened to them by study. The natural history is illustrated for the most part by drawings. To render the seminarists more useful in their situation of country school-masters, which a large proportion of the pupils become, they have lectures on the principles of agriculture and gardening, and also practical lessons from the gardener, who has charge of the grounds. The pupils work during the appropriate season every day in turn, under the direction of the gardener. Good manuals, conveying correct but elementary instruction on these matters, are much wanted. They should, perhaps, be prepared by a teacher, but by no means allowed to go into use without revision by persons specially acquainted with the different branches of science thus grouped together. This revision would insure the accuracy which, though difficult to attain, is so necessary; the more so in conveying such elements, as there is no collateral knowledge to correct or modify error as to fact or theory.

*Science and Art of Teaching.*

PREPARATORY SCHOOL.

The first class receive simple directions for keeping school, and lessons on teaching. They attend in turn the classes of the seminary schools two hours weekly, but take no part in teaching.

NORMAL SCHOOL.

II Class. Lessons on teaching, three hours. Visits to the schools, three hours.

I Class. Lessons on the art of teaching, three hours. Visits to the schools, five hours. Lessons on the instruction of the deaf and dumb, by the director of that department, one hour.

I and II Classes united. Science of teaching, two hours.

The director delivers the course on the science of teaching, which in these schools is considered of the highest importance, and also gives a portion of the lessons in the art of teaching to the first class.

The theoretical instruction in the science and art of teaching embraces two courses, each of a year, the first being devoted chiefly to education in general, the second, to instruction and the arrangements of the school.* The director remarks of this course, that the pupils learn by it to say a good deal upon these subjects, and sometimes believe that they can easily execute what they can so readily describe, an opinion of which practice can alone show the error, and which it is essential should be removed. The general theory of education is founded upon the constitution of man, and under the head of instruction, the methods of teaching the various branches are described. The practice which must render this theory of real use is had in part in the schools. The pupils attend the free school, the burgher school, and the deaf and dumb school, at stated times. They go at first as listeners, next take part in the instruction, under direction of the assistant teachers, and lastly instruct the classes. In order that they may have models of teaching, not only in the assistants, but in the teachers of the seminary themselves, the latter give lessons occasionally in the different schools; thus the director teaches one hour per week in the seminary school, the second teacher two hours, and the third and fourth teachers four hours. The lower class attend the several classes of the burgher school, except the highest girls' class, remaining, in general, one fifth of the time in each class except the lowest, where they remain double this time, and visiting each class twice at intervals. The upper class attend also the girls' class, the deaf and dumb school and the free school, remaining one-eighth of their time in each of the classes. Each member of the lower class keeps a journal of his visits to the schools, which is inspected by the second

* Harnisch's Manual of Common School Matters (Handbuch des Volks-schulwesens) is used as a text-book.

A more common division of the course is into pedagogics, or the principles of education and instruction. Methodics, or the art of teaching the system or methods of education, to which a third division is sometimes added, called didactics, which relates to the subjects of education, (Schwarz Erziehung und Unterrichts lehre.)

teacher. Each of the first class draws up a report of his occupation and observations in the schools, which is reviewed by the assistant teacher of the class to which it refers, and is then examined by the second teacher and by the director. The several assistant teachers make reports upon the qualifications of the seminarists who have given instruction in their classes. By these arrangements, a pupil who has the mental qualities essential to a teacher, cannot fail to become well versed in the practice of his profession. Habits of observation are inculcated, which must be of great service to him in his practice, enabling him to adapt himself to the circumstances in which he is placed, and to profit by the experience of every day.

To exemplify the principles and methods, a small number of the children from the seminary school are brought into the class-room of the seminary, and are examined upon a given subject by some of the pupils. The class present and the director make their notes on these examinations, and the exercise terminates by an examination of the children by the director himself, as an exemplification of his views, and that they may not receive injury from being left in a half or ill-informed state on the subjects of the lesson. The children having retired, the different members of the class make their criticisms, which are accepted or shown to be erroneous by the director, a conference or discussion being kept up until the subject is exhausted. The character of each exercise is marked by the director, who is thus enabled to judge of the progress made by every member of the class, and to encourage or admonish privately, according to circumstances.

The lectures given by the head master of the school for the deaf and dumb are also accompanied by practice, a certain number of pupils being detained every day for that purpose. The basis of the method is the idea that it is possible to restore the deaf mute to society, by enabling him to understand spoken language from the motion of the lips, and to speak intelligibly by mechanical rules. It is hoped ultimately, by training every school-master in this method, that the mute may be instructed in

schools with other children, and thus not be required to sunder ties of kindred during a long absence from home. The pupils of the deaf and dumb institution do not live in the establishment, but are boarded with tradesmen of the town of Weissenfels; the object is to induce the practice of the lessons out of school, the pupils being enjoined to avoid the use of signs. The first lesson is one in articulation. The principle of this instruction is now dominant in Germany, but up to this time the system has not been fairly tried by its results. The indomitable perseverance of the masters of the principal schools which I visited struck me with admiration, but I was not convinced that what they aimed at was practicable, at least to the extent which their principle asserts. The attempt deserves, however, the best encouragement.

*Drawing.*

PREPARATORY SCHOOL.

The two classes united for geometrical and perspective drawing.

NORMAL SCHOOL.

The same course continued.

*Music.*

PREPARATORY SCHOOL.

The two classes united for instruction in the elements of music. Choral singing. Instruction is given on the piano and organ to the pupils, divided into four sections. They are also taught the violin.

NORMAL SCHOOL.

The instruction, as just stated, is continued. Theory of music. Composition.

The violin is taught as the means of leading the exercises in singing in the elementary schools. The piano serves as an introduction to the organ, a knowledge of which is important to the Prussian school-master, as enabling him to act as organist in the church of the parish where his school may be situated. So high a value is placed upon an elementary knowledge in vocal music, that an ability to give instruction in it is indispensable to admission into the class of teachers. It is not, therefore, surprising that the pupils of the seminaries in general are proficients in music. I confess, however, that I was not prepared

for the advance in the theory and practice to which many of the first class in this school had attained. In regard to the former, I was present at one of the exercises in composition, in which the teacher* read, and the pupils transcribed three stanzas of poetry. This done, they were required to compose an air adapted to the words. In less than ten minutes a fifth of the class were ready. The teacher took his station at a black-board, on which the ledger lines were drawn, and one of the pupils whom he designated began to sing the words to the air which he had composed, the teacher writing the music meanwhile. This air was pronounced not to be original. A second was tried, which the teacher thought an imitation. A third and fourth he accepted, and wrote upon the board. They were criticised by both the class and teacher, set to parts by the former, and sung. The two classes were in the next hour united for choral singing, in which many are proficient, the teacher leading at the organ.

The course of drawing is limited in extent, the object being chiefly to give opportunities to those pupils who have a taste for drawing to cultivate it. In fact, as it tends to divert attention from more important matters, which the short time spent at the seminary requires entire devotion to, it is not much encouraged.

The four teachers attached to the normal school have charge of specific departments of labour, as well as of particular implements of instruction. The director has the general superintendence of the instruction, discipline, household arrangements, and finance, and is librarian of their small collection. The second teacher has charge of one of the schools, of the musical exercises, books, and instruments; a third, of the students when assembled, especially in the school-house, and of the drawings, copy-slips for writing, and maps. The fourth superintends the pupils while in the dwelling-house, and also at meals. These teachers are aided in their duties by younger ones attached to the seminary, under the title of assistant teachers. The dining-hall, or the recitation-rooms, serve as places of study,

* Mr. Henschel.

according as the pupils are in the school-house or in the dwelling, the two buildings being separated by a portion of the grounds. The chapel, which is a neat room connected with the school-house, serves for the music-room, as well as for the religious exercises.

The order of the day in the normal school will serve to show how constantly these young men are employed in preparing for the duties of their arduous profession, and yet they appeared to me always cheerful in the performance of their self-imposed task. In winter, the pupils rise at five, and, after washing and dressing, have a brief religious exercise, and study until breakfast, which is at seven o'clock. Until eight there is recreation. From eight until twelve they are in school, engaged in recitation, listening to lectures, or teaching. From twelve until one they have dinner and recreation. From one until five they are again in school. From five until seven or half past seven, in summer, there is recreation, or excursions are made with a teacher, and then study until nine. In winter there is recreation until six, from six to eight study, and from eight to nine musical exercises, one-third playing on the violin, another on the organ or piano, and another singing. At half past nine in winter, and ten in summer, the pupils retire. There are prayers morning and evening. On Wednesday and Saturday they have half of the day for recreation, and in summer make excursions to collect plants or minerals. A place for gymnastic exercises is provided, and used during the hours of recreation.

The moral education of these young men is closely attended to. They not only receive direct religious instruction, but the best examples are constantly before them. The chief reward for proficiency or good conduct is the approbation of the teachers, the principal punishment, short of dismission, their disapprobation. The director has, also, the influence resulting from his power to give pecuniary assistance to the meritorious, while in the school, and to secure them good places at leaving it. The greatest harmony reigns throughout the establishment. On the evenings of Saturday, there are frequently parties in turn among the teachers, to which the pupils are invited,

and where there is usually music. Those who have acquaintances in the town, are encouraged to visit their families, but the places of visiting must be known to the director.

Physical education is most essential where young men, at the time of life of these seminarists, are sedulously engaged in intellectual pursuits, and necessarily so much confined to the house. They, therefore, have gymnastic exercises or work in the fields or garden, or walk during those periods of the day and parts of the week allowed for recreation. Care is taken that, unless indisposed, they do not remain in the house at those times, when the weather permits them to be in the open air. There is an infirmary for the sick, in which one of the pupils in turn acts as nurse, and a physician is called in when necessary.

The school year is divided into three terms, the first from the beginning of June until August, the second from September to Christmas, and the third from January to May. The holidays are four weeks in August, two at Christmas, and one at Easter. During the first two named, the pupils go home to their friends. Christmas is celebrated in the school, and at the close of the first and second terms there are private examinations, the results of which are communicated to the students. At the close of the third term, the examination for passing from the second to the first class is held, and none are promoted from one class to another unless fully proficient in the courses of the past year. At the end of the second year, they are examined upon the whole range of study, and in composition and orthography. Those who pass satisfactorily receive a diploma, and find no difficulty in obtaining employment as teachers. Some of the most promising are frequently retained in the schools of the institution as assistant teachers, under the appointment of the director. The additional experience thus gained is of importance in a professional, and ultimately in a pecuniary point of view.

Every pupil, on leaving the school with a diploma, makes a drawing, or copies a piece of music or of writing, which he leaves as a memento.

The pupils of all the normal schools are bound by law to serve in such situations as may be assigned to them for three years, or to pay certain sums in lieu of this service.

The domestic economy is superintended by the director, who has a house-keeper under his orders. Dinner is provided at a common table, but each person furnishes himself with breakfast and supper. The diet is of the plainest kind, but there is meat for dinner every day in the week except two.* The police of the establishment is attended to by the pupils themselves. The members of the second class, in turn, have charge of the police of the school-rooms, dormitories, of the lamps, of ringing the bell, &c., or these duties are executed by those who have fallen under censure. The first class superintend the fires and out of door work, have charge of the cellar, store-room, lavatory, &c. There are three dormitories, under the general superintendence of one of the teachers, aided by pupils selected for the purpose. The bed and bedding are furnished by the pupils at entrance. The lodging of these youths is, like their fare and clothing, of the plainest sort; a plainness which puts in strong relief the richness of the moral and intellectual culture afforded by the institution.†

## SEMINARY FOR TEACHERS OF THE CITY SCHOOLS AT BERLIN.

This is one of the more recently erected seminaries, and its objects are declared to be—first, to educate teachers for the city schools; second, to enable teachers to advance in their vocation, by providing them with lectures, and with a library; and third, to enable candidates for the ministry to become somewhat acquainted with the art of teaching, as they are required, subsequently, to act as inspectors of the schools. The first of these is the main object of the institution. The teachers to be furnished are, in general, of the grade required for the burgher schools. This, with its location in the city, renders the general

* The dinner costs seven dollars and fifty cents per annum, or about two cents and a-half per day. If a pupil receives no stipend from the institution, he is charged but half this sum.

† The yearly cost of this institution is but about twenty-eight hundred and forty dollars. The director receives a salary of six hundred dollars, which enables him to live very comfortably, and to maintain his proper station, on a par with the burgher authorities, the clergyman, district judge, &c.

plan of this school different from that already described. The care taken in the selection of the directors of the normal schools prevents the necessity for minute regulations, and does what no regulation can, namely, infuses the proper spirit; hence, there will always be found differences in the minute details of these institutions, which may not, however, be essential.

The director of this seminary* is also the head of the school of practice attached to it, and already described. There are, besides him, eight teachers for both the school and seminary. The pupils of the latter are about fifty in number.

The pupils generally live out of the seminary, there being accommodations but for sixteen or eighteen within the buildings. It is an important question, whether the method of boarding the pupils in or out of the house shall be adopted in these institutions, and I believe that it has been rightly solved, both at Weissenfels and here, adopting in the former school the method of collecting the pupils, and in the latter, of allowing them to dwell apart.

The conditions for admission are nearly those, as to certificates, age, and qualification, of the Weissenfels school, taking as the standard of qualification the attainments of pupils from the preparatory department. Thus, eighteen years is the general age of admission, and the applicants must present to the school-board of the province certificates of baptism, of having attended the first communion, of having attended school, of moral conduct, of good health, and that their parents or guardians will support them while at the seminary. The candidates are expected to be prepared for examination on the principal parts of the Bible and the chief truths of Christianity, and to be acquainted with some of the principal church songs; to express themselves correctly in words and in writing, and to have a good knowledge of the etymology of the German language; to understand the ground rules of arithmetic, proportions, and fractions, and the elements of form in geometry, to possess a competent knowledge of geography and history, to know the use of mathematical instruments, and to have an elementary knowledge of

* Dr. Diesterweg.

music. The school does not professedly maintain any pupil while receiving instruction, but assists some of those of the second year who are meritorious, and makes a further advance to those of the third year who have shown themselves worthy of their calling.*

The courses are of three years' duration, of which the first is entirely occupied with revising and extending the attainments of the pupil; the second is, in part, devoted to teaching, but under the inspection of the director, and the third is mainly filled up with teaching in the school attached to the seminary or others of the city. This arrangement is intended, first, to secure a due amount of scholarship on the part of the pupils, and next, to make practical teachers of them. The first essays in their art are made under close supervision, and subsequently, the independent teaching affords them opportunities for comparing the theoretical principles which are inculcated in the lectures at the seminary with their daily observation, and the communication of their remarks in meetings with the director gives them the advantage of his experience in guiding their observation.

The scope of the instruction here does not differ essentially from that at Weissenfels, the subjects being reproduced in a different form. The following table gives the names of the branches, with the time occupied in each of the classes, the third class being the lowest. The course of each class is a year in duration.

The hours of duty are from seven in the morning until noon, and from two in the afternoon until four for the second and third classes, with few exceptions. The first class receive their instruction from half past five until half past seven in the evening, except on Wednesday and Saturday. Wednesday is a half-holiday for the lower classes, as well as Saturday.

The religious instruction is given by a clergyman. The physical education is left much to the discretion of the young

* This may amount to sixty dollars yearly. The boarders at the school pay but three dollars and thirty-seven cents per quarter for their lodging. An entrance fee of twelve dollars is paid, which exempts the pupil from further charges for instruction.

men, at least in case of those who live out of the seminary. The school is deficient, as the one already described, in the means of illustrating the courses of natural philosophy and natural history, but the pupils may have access to the natural history collections of the university.

**Table of the distribution of time among the different employments at the Berlin Seminary.**

| SUBJECTS OF STUDY, &c. | HOURS PER WEEK. | | |
|---|---|---|---|
| | First Class. | Second Class. | Third Class. |
| Pedagogy, | 2 | | |
| Practice, | 1 | 4 | |
| Religious Instruction, | 1 | 2 | 3 |
| Theory of Music, | | 1 | 1 |
| Vocal Music, | 1 | 3 | 5 |
| German Language, | | 2 | 6 |
| Reading, | | 2 | 2 |
| Arithmetic, | | 3 | 4 |
| Geometry, | | 2 | 2 |
| Geography, | | 1 | 2 |
| History, | | 1 | 2 |
| Zoology, | | 2 | 2 |
| Mineralogy, | | 2 | 2 |
| Physics, | | 2 | 2 |
| Drawing, | 2 | 2 | 2 |
| Writing, | | 1 | 2 |
| Playing the Violin, | | 3 | 3 |

The method of instruction, as in the other school, is mainly by lecture, with interrogations. The inductive system is followed in the mathematical branches. The works of the director on these subjects enjoy a high reputation, and are in use in many of the schools. The exercise called "practice," in the duty of the first class, is that which I have already described, where the pupil gives instruction under the eye of his class-mates and of the director, and this instruction is made the matter of subsequent criticism. Here the seminarists themselves act as pupils, receiving supposed lessons from one of their class, while at Weissenfels, pupils from the seminary class are called in. This latter plan appears to me to have great advantages over the one adopted here, which, however, is used, I believe, only in the case of the first class, who receive lessons at times when the schools are not in session.

### PRIMARY NORMAL SCHOOL AT HAARLEM.

This school, which has been already referred to in the chapter on primary instruction in Holland, is peculiar in regard to instruction, practice in teaching, and discipline. It is intended to prepare for at least the second grade among primary teachers, which, it will be remembered, qualifies for the mastership of any primary school, the first class being an honorary grade. The age of admission, the time of continuance, and the courses of instruction, are regulated accordingly.

requires that the school should not be numerous, and it is accordingly limited to forty pupils. There is an assistant to the director, who shares in the general instruction with him, and upon whom the religious teaching of the pupils specially devolves. The school is visited periodically by the inspector-general, who examines the pupils personally, and notes their general and individual proficiency.

To be admitted, a youth must be over fifteen years of age, and have passed an examination upon the studies of the elementary school, satisfactory to a district-inspector, who recommends him for admission. He is received on probation, and at the end of three months, if his conduct and proficiency are satisfactory to the director, is recommended to the minister of public instruction, who confirms his appointment.

The course of theory and practice lasts four years in general, though, if a pupil have the third lower grade of public instruction in view, which is attainable at eighteen years of age, he is not required to remain connected with the institution beyond that age, and indeed may leave it, on his own responsibility, before the close of the regular course. The second grade is only attainable at the age of twenty-two, and hence it is not usual for pupils to enter this school as early as the law permits. The theoretical instruction is composed of a review and extension of the elementary branches, as the Dutch language, geography, arithmetic, elementary geometry, the history of the country, natural history, religion, writing, and vocal music, and also of general geography and history, natural philosophy, and the science and art of teaching. This is communicated in the evenings, the pupils meeting at the school for the purpose. During the day they are occupied in receiving practical instruction, by teaching under the inspection of the director in the elementary school already spoken of, attached to the normal school and occupying its rooms, or in teaching in some other of the elementary schools of the town of Haarlem. They pass through different establishments in turn, so as to see a variety in the character of instruction. The director, as inspector of primary schools in this distrct, visits frequently those

where his pupils are employed, and observes their teaching, and also receives a report from the masters. The observations and reports are turned to account in subsequent meetings with his class.

The pupils do not board together in the normal school, but are distributed through the town, in certain families selected by the director. They form a part of these families during their residence with them, being responsible to the head for the time of their absence from the house, their hours, and conduct. They take their meals with the families, and are furnished with a study and sleeping-room, fire, lights, &c. The director pays the moderate sum required for this accommodation from the annual stipend allowed by government.* The efficiency of such a system depends, of course, upon the habits of family life of the country, and upon the locality where the school is established. In Holland and Haarlem the plan succeeds well, and has the advantage that the pupils are constantly, in a degree, their own masters, and must control themselves, and that they are never placed in an artificial state of society or kind of life, which is the case when they are collected in one establishment. The director makes frequent visits to these families, and is informed of the home character of his pupils.† The discipline of a normal school is of course one of the easiest tasks connected with it, for improprieties or levities of conduct are inconsistent with the future calling of the youth. Admonition by the assistant and by the director are the only coercive means resorted to, previous to dismission. The director has authority to dismiss a student without consulting the minister, merely reporting the fact and case to him. Though this power

* This annual stipend is ninety dollars. Supposing that a student has an entire bursary, he will require some additional funds to support him while at the school; for his board, lodging, &c. cost two dollars per week, which, for the forty-two weeks of term-time, amounts to eighty-four dollars, leaving him but six dollars for incidental expenses.

† Director Prinsen entirely disclaims the use of the police as aiding in the discipline of the school, and alleges that, in attributing this to him, M. Cousin has misunderstood his remarks on the subject. See Cousin on Public Instruction in Holland, Chapter on Haarlem.

may be important in increasing his influence, yet it has been necessary to exercise it but three times in twenty years. There are two vacations of from four to six weeks each, during which the pupils, in general, return to their friends. The school has a lending-library of books relating to teaching, and of miscellaneous works. This useful institution supplies for the primary schools every year from eight to twelve well prepared masters, who propagate throughout the country the excellent methods and principles of teaching here inculcated.

## PRIMARY NORMAL SCHOOLS OF VERSAILLES AND DIJON.

Of the primary normal schools of France, first organized by the law of 1833, I visited two, which were specially recommended by high authority, those at Versailles and Dijon. With certain distinctive differences depending upon the personal character of the directors, and upon the localities, the general system of these schools is the same. I propose, first, to give a sketch of the arrangement of that at Versailles, and to follow this by a notice of that at Dijon. When the normal schools of France have had the same amount of experience which those of Germany now enjoy, a comparison can be more fairly made between them than at present. In France, the primary normal schools are yet in a condition of experiment, and it must be some time before the system best suited to the different parts of the country has been selected. The first of the above named schools furnished, in 1837, twenty, and the second seventeen primary teachers.

The primary normal school of Versailles is for the department of Seine, and Oise. It comprises within its ample premises* several establishments for the instruction and practice of teachers. The school itself contains eighty pupils under regular instruction throughout the year, and furnishes a two months' course to adult school-masters. The establishments for practice begin with the infant school, and rise through the primary to the grade of primary superior. Of the elementary

* Used under a former dynasty to accommodate the hounds of Charles X.

schools, one affords the young teachers an example of the method of mutual, and another of simultaneous instruction. The primary superior school had been recently established, at the date of my visit, in 1837. There is, besides, an evening department for the elementary instruction of adults, taught by the pupils of the normal school, and also a school of design, which is established here rather for convenience than as properly belonging to the range of the institution.

The whole establishment is under the immediate control of a director,* subject to the authority of a committee, and of the university, the inspectors of which make regular visits. The committee inspect the school by sub-committees once a month, visiting the recitation-rooms of the professors without giving special notice, a plan much to be preferred to that of stated visits. If a member of a committee desires questions to be put upon any particular points, he calls upon the professor to extend his examination, or asks questions himself. The director examines the classes frequently, or is present at the lessons. There are eight professors for the various courses, and two "repeaters" (repetiteurs), these latter superintending the pupils when not with the professors, and giving them assistance if required. The repeaters are responsible for the execution of the order of the day in the institution, and for the police, and one of them sleeps in each of the two dormitories. Some of the teachers in the normal school also give instruction in the model schools, and have charge of the pupils while engaged in the practical exercises. The domestic economy is under the charge of the director, but he is allowed an assistant, who actually discharges the duty of superintendence, and who has brought this department into most excellent order.†

There are a certain number of gratuitous places, to which pupils are admitted by competition, those found best prepared at the examination for admission having the preference. Pay

* Mr. Le Brun, to whose politeness I am much indebted.

† During the first year of the institution, the fare of each student cost fifty-nine centimes (twelve cents) per day. They had meat twice a-day, except on the fasts of the church.

pupils are also received at a very moderate rate,* but are exactly on the same footing, in reference to the duties of the institution, with the former. Young men who wish to compete for a place, and are not sufficiently prepared, may enter as pay pupils, and thus receive instruction directly applicable to their object. The age of admission is, by rule, between sixteen and twenty-one, but the former limit is considered too early for profitable entrance. The qualifications for admission consist in a thorough knowledge of the subjects taught in the elementary schools.

The period of instruction is two years. The first year is devoted to the revision of elementary studies, and the second to an extension of them, and to theoretical and practical instruction in the science and art of teaching. The subjects of revision or instruction are, reading, writing, linear drawing, geography, history, the drawing of maps, morals and religion, vocal music, arithmetic, elementary physics, terraculture and pedagogy.

The religious instruction is given by an ecclesiastic, who is almoner to the school; it includes lessons on the doctrines and history of the church, given twice per week. Protestants are not required to attend these lessons, but receive instruction out of the institution from a minister of their own confession.

Physical education is conducted by means of exercises in gymnastics, by walks, and the practice of gardening. In summer the pupils bathe once a week. The gymnastic exercises are taught by the more expert pupils to the scholars of the model schools, and appear to have taken well among them.

The pupils study in a room common to all, and the degree of attention which they pay, and their conduct, are marked, according to a uniform scale, by the superintending "repeater," and reported daily to the director. Once every month the professor examines these classes on the studies of the past month, and reports the standing. Marks are also given for great proficiency and attention, which are reported with the standing.

* Five hundred francs, or about one hundred dollars, per annum.

These marks, and those of the examination, are summed up, and when they amount to a certain number for the month, the pupil is entitled to a premium. The premiums consist of books uniformly bound, and accompanied by a certificate. Report is made of these pupils to the minister of public instruction, and the record may serve them when desirous to secure a particular place. The director assembles the school to hear an account of these monthly reports, and makes such remarks as they may suggest.

Besides the more usual school implements, this institution has a library, a small collection of physical and chemical apparatus, of technological specimens, already of considerable interest, and of models of agricultural implements. There are, also, two gardens, one of which is laid out to serve the purposes of systematic instruction in horticulture, the other of which contains specimens of agricultural products, and a ground for gymnastic exercises. The pupils work by details of three at a time, under the direction of the gardener, in cultivating flowers, fruits, vegetables, &c. They have the use of a set of carpenter's and joiner's tools, with which they have fitted up their own library in a very creditable way.* In the second year they receive lectures on the science and art of teaching, and in turn give instruction in the schools, under the direction of the teachers. Their performances are subsequently criticised for their improvement.

The order of the day in summer is as follows:

The pupils rise at five, wash, make up their beds, and clean their dormitories, in two divisions, which alternate; meet in the study-hall at half past five for prayers, breakfast, engage in studies or recitation until one; dine and have recreation until two; study or recite until four; have exercises or recreation, sup, study and engage in religious reading and prayers; and retire

* A carpenter who came to attend the evening classes was found by the director so intelligent, that he advised him to prepare for the school. The young man succeeded in entering, at the annual competition, and subsequently, on leaving the school, received one of the best appointments of his year as a teacher.

at ten, except in special cases. Before meals there is a grace said, and during meals one of the pupils reads aloud.

In distributing the time devoted to study and recitation, an hour of study is made to precede a lesson, when the latter requires specific preparation; when, on the contrary, the lesson requires after-reflection to fix its principles, or consists of a lecture, of which the notes are to be written out, the study hour follows the lesson. The branches of a mechanical nature are interspersed with the intellectual. The students of the second year are employed, in turn, in teaching, and are relieved from other duties during the hours devoted to the schools of practice.

On Sunday, after the morning service, the pupils are free to leave the walls of the institution. The same is the case on Thursday afternoon. The director has found, however, bad results from these indiscriminate leaves of absence.

The discipline of the school is mild, the age and objects of the pupils being such that the use of coercive means is seldom required. The first step is admonition by a "repeater" or professor, the next a private admonition by the director. If these means prove ineffectual, dismission follows. The director has great influence, from his personal character, and from the fact that his recommendation can secure a good place* to the pupil immediately on leaving the school. The mode of life in the institution is very simple. The pupils are neatly but roughly dressed, and perform most of the services of police for themselves. The dormitories are very neat. The bedsteads are of wrought iron, corded at the bottom. During the night the clothes are deposited in small boxes near the beds. The extra articles of clothing are in a common room. Cleanliness of dress and person are carefully enjoined. The fare is plain, but good, and the arrangements connected with the table unexceptionable. There is an infirmary attached to the school, which is, however, but rarely used.

* The best places, in point of emolument, are worth from fifteen to eighteen hundred francs (about $300 to $360).

The schools for practice do not require special description, as their organization will be sufficiently understood from what has already been said of primary schools, and they have not been long enough in operation to acquire the improved form which, I cannot doubt, they will receive under the present able director of the normal school.

The primary normal school at Dijon for the department of Côte d'Or, in its general organization, is the same as that at Versailles. It differs, however, in one most important particular, which involves other differences of detail. All the instruction, except of religion and music, as well as the superintendence, is under the charge of the director and a single assistant, who, by the aid of the pupils, carry on the schools of practice, as well as the courses of the normal school. This arrangement limits the amount of instruction, and interferes very materially with the arrangement of the studies. The school is conducted, however, with an excellent spirit. An idea of the plan will be obtained from the order of the day, which also contains an outline of the course of instruction.

From five to six, A. M., the pupils say their prayers, wash, &c. From six to seven the higher division has a lesson in French grammar. The lower receives a lesson in geography or history alternately. From seven to eight, the higher division has a lesson in geography or history alternately; the lower division in arithmetic. From eight to half past eight, breakfast and recreation. From half past eight until eleven, a portion of the higher division is employed in the primary schools of practice, and the others are engaged in study. From eleven until one, writing and linear drawing for both divisions. From one until two, dinner and recreation. From two until half past four, as from half past eight to eleven. Recreation until five. From five to six, instruction in instrumental or vocal music for each division alternately. From six to seven, the higher division has a lesson in geometry or its applications, the lower division in French grammar. From seven until a quarter before eight, supper and recreation. From this time until nine, the higher division has a lesson in physical science or natural

history, mechanics, agriculture, and rural economy, or book-keeping; the lower division in reading. The last quarter of an hour is occupied by both divisions in prayers, after which they retire. This order applies to all the days of the week but Thursday, when, from eight to ten, the pupils receive moral and religious instruction. From ten to eleven, instruction in the forms of simple, legal, and commercial writings, and from two to four, engaged in the review of part of the week's studies. On the afternoon of Thursday the schools of practice are not in session.

On Sunday, after the duties following their rising, the pupils are occupied in studying and revising some of the lessons of the week. From nine to ten o'clock, in religious reading, aloud. At ten they go to service in the parish chapel, attended by the director and his assistant. Receive moral and religious instruction on their return until dinner time. After dinner, attend the evening service, and then take a walk. In the evening, assemble for conversation on pedagogical subjects and for prayers.

## NORMAL SCHOOL OF THE CANTON OF ZURICH AT KÜSSNACHT, NEAR ZURICH.

The efforts of the cantons of Switzerland, since 1831, to extend the benefits of popular education, have been great, and already, to a certain degree, successful, and the adoption of the system of instructing teachers will insure rapid progress for the future. This system has been commended and enforced by the society for public utility, the branches of which, dispersed over the cantons, with their standing committees, and the general meetings of the society in different parts of the confederation, give it great influence over public opinion. At its last meeting, an able, and I believe impartial, report upon the normal schools was read, and an interesting discussion, productive of sound views on the subject, was elicited. Of the primary normal schools already established, I visited those of Lausanne,

the school for the canton of Vaud, Lucerne for the canton of Lucerne, Munchenbuchsee for Berne, Küssnacht for Zurich, and Kreutzlingen for Thurgovia. Each of these has characteristics adapting it to its location, and depending upon the views of the councils of education of the cantons, and upon those of the directors. Obliged to limit myself in this Report to a specimen of these schools, I have taken the seminary of Zurich, and the establishments connected with it, for description.

The normal school at Küssnacht is about a league from the town of Zurich, and the buildings are prettily situated on the borders of the lake of the same name. This institution was re-organized in 1836, though the modifications made have been rather in the details than in general principles. It now consists of a school for teachers, a preparatory school for this seminary, and three primary model schools. It is intended to supply teachers for the different grades of primary schools of the canton, and during a portion of the year lectures are also delivered in the seminary to the older teachers, who are assembled for that purpose in their vacations.

The superintendence and control of the normal school is vested by the legislative council in the council of education, who appoint a committee of superintendence from their own body. This committee visits the school at least once a month, attends its examinations, and, in general, inspects its management. The executive power is delegated to a director,* who has the immediate charge of the school, and arranges the plan of instruction, in subordination to the council of education. He examines the candidates for admission, inspects the classes of the seminary, and of the schools attached to it, and lectures in the school of repetition for the older teachers. He is also responsible for the discipline, and reports half yearly the

* Mr. Scherr, a very remarkable teacher. Until recently, Mr. Scherr was an instructor of the deaf and dumb. The observation required in this department of instruction, and the newness of it, by which it has not degenerated into routine, require a constant exercise of the intellect of the teacher, and render it an excellent preparation for one who wishes to improve his art.

state of the institution to the council of education. He is moreover present at the meeting of the committee of superintendence. There are three other teachers, besides a variable number of assistants. These teachers in turn have charge of the pupils of the normal school in and out of school-hours. There are conferences of all the teachers, at which the director presides. The manners of the people and the purpose of the seminary render the discipline of very trifling amount. The pupils of the normal school reside in the village of Küssnacht, but spend the greater part of their time at the school, under the direction of its masters. All the time devoted to study, recitation or lecture, and regular exercise, is passed there.

To be admitted as a candidate for the normal school, a youth must be sixteen years of age, and of suitable moral, intellectual, and physical qualities for the profession of a teacher. He must have spent two years in the higher division of primary instruction (called here secondary) in the model school, or some equivalent one, or have passed through the preparatory department of the normal school, which gives a preference to the candidate, other qualifications being equal. The examination of candidates takes place once a year, and in presence of the committee of superintendence, or of a deputation from their body. The formal right of admitting to the school is, however, vested alone in the council of education. The subjects of examination are Bible history, speaking and reading, grammar, the elements of history, geography and natural philosophy, arithmetic and the elements of geometry, writing, drawing, and vocal music. The council of education fixes the number of pupils who may be admitted, and the most proficient of the candidates are selected. There are forty stipendiary places, ten of the value of one hundred and sixty Swiss francs (forty-eight dollars), and thirty of half that sum. Natives who are admitted all receive their instruction gratis. If there is room in the school, foreigners may be received, paying twelve dollars per annum for their instruction. The number of pupils at the date of my visit, in the autumn of 1837, was one hundred and ten.

The stipendiaries are bound to serve as teachers in the canton two years; a very moderate return for the education received.

There are two grades of courses in the normal school, one of two years for pupils intending to become teachers in the lower primary schools, the other of three years for the higher primary schools. The courses begin in April, and continue, with seven weeks of vacation, throughout the year. The subjects of instruction are: Religious instruction, German, French, mathematics, history, geography, natural history and philosophy, pedagogy, writing, drawing, and vocal and instrumental music. French is only obligatory upon the students of the three years' course. Gymnastic exercises and swimming are regularly taught and practised.

There are three classes, corresponding to the three years of study. The courses were distributed, in 1837, according to the following table:

Table of the distribution of the lessons in the Primary Normal School of Zurich.

| SUBJECTS OF STUDY, &c. | HOURS PER WEEK. | | |
|---|---|---|---|
| | Third or Highest Class. | Second Class. | First or Lowest Class. |
| Religious Instruction, | 2 | 3 | 3 |
| Mode of communicating Religious Instruction, | | 2 | |
| German Language, | 4 | 3 | 10 |
| Elocution, | | 2 | |
| French Language, | 11 | 5* | 5* |
| Geography, | 2 | 3 | 3 |
| History, | 2 | 2 | 3 |
| Arithmetic, | 3 | 3 | 3 |
| Geometry, | 3 | 3 | 3 |
| Natural History, | 2 | 2 | 3 |
| Natural Philosophy, | 3 | 2 | |
| Pedagogy, | 3 | 3 | |
| Writing or Drawing, | | 5 | 5 |
| Geometrical Drawing, | 4 | | |
| Vocal Music, | 2 | 3 | 3 |
| Gymnastics, | 3 | 3 | 3 |
| | 44 | 44 | 44 |

There is, besides, a lecture of an hour and a-half on the art of building, once a week, attended by all the students. Those who learn instrumental music have lessons two hours and

* Or individual instruction in music.

a-half every week, and two hours of Sunday are occupied with singing in concert. One of the teachers devotes two extra hours every week to the assistance of some of the pupils in their studies, or to repetitions.

At the close of each year there is a public examination, and the pupils are classed according to its results. On leaving the institution, they are arranged in three grades, the first, of those who have gone very satisfactorily through the school, the second, of those who have passed satisfactorily, and the third, of those who have not come up to the standard. Certificates of the first two grades entitle their holders to compete for any vacant primary school.

The courses of practice begin in the second year, when the pupils take regular part in the exercises of the schools attached to the seminary. These are, first, two model schools for children from the ages of six to nine, and from nine to twelve, at which latter age the legal obligation to attend the schools ceases. The third, called a secondary school, contains pupils from twelve to sixteen years of age. The system of instruction used in the lower schools is attended with very striking results. The lessons are not divided into distinct branches, studiously kept separate, as in most elementary schools, but are connected, as far as possible, so as to keep the different subjects constantly before the mind. Thus, a lesson of geography is, at the same time, one of history, and incidentally of grammar, natural history, of reading and writing, and so on through the circle of elementary instruction. The Pestalozzian lessons on form are made the basis of writing, and with good success. The lowest class is taught to speak correctly, and to spell by the phonic method, to divide words into syllables, and thus to count. To number the lessons. To make forms and combine them, and thus to write, and through writing to read. The second passes to practical grammar, continues its reading and writing, the lessons in which are made exercises of natural history and grammar. Reading and speaking are combined to produce accuracy in the latter, which is a difficulty where the language has been corrupted into a dialect, as the German has in northern

Switzerland. Movable letters are used to give exercise in spelling and reading. The plan of the Pestalozzian exercises in grammar is followed, and when the pupils have learned to write, a whole class, or even two classes, may be kept employed intellectually, as well as mechanically, by one teacher. In reading, the understanding of every thing read is insisted upon, and the class-books are graduated accordingly. I never saw more intelligence and readiness displayed by children than in all these exercises; it affords a strong contrast to the dulness of schools in which they are taught mechanically. The same principles are carried into the upper classes, and are transplanted into the schools by the young teachers, who act here as assistants. The examination of the second school in Bible history, with its connected geography and grammar lessons, in composition, with special reference to orthography and to the handwriting, and the music lesson, at all of which the director was so kind as to enable me to be present, were highly creditable.

There are three classes in each of these schools, and the pupils of the normal seminary practice as assistant teachers in them at certain periods; the director also gives lessons, which the pupils of the seminary repeat in his presence.

In the highest, or secondary school, the elementary courses are extended, and mathematics and French are added.

The pupils of the preparatory department of the seminary spend two years in teaching in the two model schools, and in receiving instruction in the "secondary school," under the special charge of the director of the seminary. This establishment has furnished, during three years of full activity, two hundred teachers to the cantonal primary schools. These young teachers replace the older ones, who are found by the courses of repetition not able to come up to the present state of instruction, and who receive a retiring pension. The schools must thus be rapidly regenerated throughout the canton, and the education of the people raised to the standard of their wants as republicans.

# CHAPTER X.

## SECONDARY INSTRUCTION.

Secondary instruction occupies the place between elementary and superior instruction. It follows the attainments which are indispensable to the pursuit of knowledge, and precedes the special studies which bear more or less upon the occupation of the individual in future life. It embraces the period from eight or ten years of age to seventeen or nineteen, as the ordinary average limits. Viewed in its most enlarged sense, this instruction prepares for any kind of special studies for which matured intelligence is necessary, for the higher occupations of the useful arts, as well as for the learned professions. It is no objection to this view that in some countries there are no public schools for the arts, as there are for the professions, since there are also some of the learned professions in certain countries which have no public schools set apart for them, but which are, nevertheless, avowedly in the front rank, and which require, as an introduction to their studies, a thorough secondary training. This view gives rise to a two-fold division of the subject—first, secondary instruction, as preparatory to the professions usually designated as learned; second, as preparing for the higher practical occupations, which are rising rapidly into, or have taken their place in the same rank with the professions. I leave these views to be judged of by the facts to be presented. The first kind of secondary instruction is to be met with, as a national system, in most countries of Europe, while in others it is supplied by individual enterprise, and by independent foundations or corporations. The institutions which supply this instruction in a more or less perfect form, are designated by various names. The class is composed of the academies and grammar schools, some of the colleges, the proprietary and certain other schools of England;

the colleges, royal and communal "institutions," and boarding-schools (pensions) of France; the Latin schools and others of Holland; the colleges, auditories, and gymnasia of Switzerland; the colleges of Italy, and the gymnasia of the German states. It is true, that in some of these schools, especially in England and France, elementary instruction is given as well as secondary, but this is generally done in separate departments or divisions. It is also true, that university instruction in some branches is merely a development of that of the schools, and in England, especially, as viewed in one light, is but an extension of secondary instruction. Nevertheless, the rule is, I believe, as laid down; and these cases must be considered as exceptions, which, with others, tend to prevent any exact classification. The second kind of this grade of instruction exists in its most advanced state in Germany, where the "real schools," and some of the "trade schools," prepare pupils for the polytechnic institutions, or for "trade institutes," or commercial and other schools, which are the equivalents of the universities. In France, it is by no means supplied by the primary superior schools, which are not real substitutes for the trade schools of Germany, while the higher grade of special instruction is in a flourishing condition, and the pupil must seek the required preparation in establishments intended for other purposes, or by private study, or in the higher institutions themselves. In England, the recent introduction of courses for civil engineers into the University of Durham, and into London University and King's Colleges, is an earnest that the preparatory grade of schools will, in due time, also be provided.

There can be no doubt that the scope and nature of the Girard College require us to embrace both these grades of secondary instruction, while our strength should be applied to the latter, and will require to be so much more vigorously exerted, as the materials which we can derive from experience are much less complete than in the former division. In making a selection from these materials, I shall, as in treating the other divisions of my subject, offer such comments upon them, in connexion with the descriptions, as may seem necessary, and from

these comments, and the comparison of different institutions in the same country, and of secondary instruction in different countries, show not only the grounds of my own opinions, but enable the trustees to judge how far they are founded in reason and in fact.

The great number of institutions for preparation for the professions which, in a tour like that directed by the trustees of the Girard College, would necessarily be visited, renders an account of this branch difficult, from the abundance of matter collected. With real regret at the necessity for omitting accounts of interesting establishments, I have concluded to limit this notice to those of Scotland and England, from which those of our own country are principally derived, and to those of France and of Prussia. In so doing, though I am obliged to pass over the institutions of countries such as Switzerland, Holland, and the German states, which I visited with great interest, and, I trust, not without profit, yet I fear that, even with these omissions, my Report will be extended beyond its due limits.

Of the objects of sound education, namely, intellectual, moral, and physical development, the first two occupy, in general, nearly exclusive attention, the last being left to regulate itself, and in some cases being even interfered with by the means taken to encourage the former; a growing attention, however, to this branch, at least so far as to prevent injury to the physical man, gives promise of a reform in this particular. The materials for the secondary instruction abroad, which forms the basis of the intellectual and moral education leading to the learned professions, are selected from among the following: the Latin, Greek, and Hebrew languages, the vernacular and other modern languages, mathematics, physics, chemistry, the natural sciences, geography, history, moral and mental science, religious instruction, and the arts. The selection from these varies from the ultra schemes, on one side, which would confine youth to the study of the ancient languages, with a small proportion of the vernacular, and of geography, history, and religion, to the opposite extreme, which, without, perhaps, actually excluding the ancient languages, would so far restrict the study of them, as to reduce

them to comparative inefficiency as a means of mental training. Between these extremes there exists, as will be shown, a variety of plans of instruction, each one recommending itself to some particular constitution of mind, and in the results of some of which close observation has failed to detect differences which would induce a very decided preference for one or the other.

The question of the uses and abuses of classical and scientific instruction has been held up in almost all possible lights, in the keen strife which has arisen for the possession of the secondary schools, and it will be my object in this Report to add to this body of argument for the trustees, that of facts and results, produced by the gradual development of public opinion in the countries which will be under consideration.

The secondary and higher departments of instruction were the first organized in the progress of civilization, while popular primary instruction has come into being under the impulse of modern improvement. Hence, while modifications in the latter have been easy, the former departments have presented fixed systems, in which even improvement must make its way against the odium usually attaching to innovation.

## SECONDARY INSTRUCTION IN GREAT BRITAIN.

There being no general system of secondary instruction in Great Britain, this account resolves itself, as in the case of the primary schools, to a description of particular institutions, which may be considered as types of the class to which they belong. On account of the absence of system, more time is consumed, both in actual examination and in description, than is required in countries where the schools are organized according to a general plan. There, a few schools give a complete idea of all the variations which the system allows, while here, the number of special cases must be multiplied according to the variety in the ideas of individuals, or associations, who have the charge of secondary institutions.

In England there is a large amount of endowment for schools, in which secondary instruction, leading to the universities and

professions, is given, or, rather, which has hitherto been applied, almost exclusively, to that purpose. The second division of this grade is left mainly to private establishments and associations. In Manchester and Birmingham, however, the trustees of the endowed grammar schools have recently determined to embrace both objects in their courses, and thus to satisfy the wants of a very large proportion of the population of those cities for whose benefit the schools were endowed, when the necessities of the community, in regard to education, were very different from what they are now.

In England, secondary instruction for boys is given in the public grammar schools, which are endowed, and educate,* gratuitously, certain classes of students, in the preparatory schools erected by associations, and modelled according to the views of the committees or proprietors, and in private schools, which are numerous in all parts of the country. Some of the grammar schools, such as Eton, Winchester, and Westminster, are styled colleges. In many of these institutions, the elementary period, as well as the proper secondary, is embraced.

In Scotland, the title of academy, high-school, or college, is applied to similar establishments; and in Ireland, that of academy, academical institution, &c. There are very striking differences between the university systems of England and Scotland, which tend to impress corresponding differences of organization on the schools which serve as feeders to them.

While the subjects composing the courses of the secondary schools of Great Britain are not, in general, very different, the proportions in which they enter vary exceedingly. The English language, Latin and Greek, one of the modern foreign languages, history, geography, mathematics, and writing, are to be found in most of the programmes, and to these are added, in some, natural philosophy and chemistry, natural history, drawing, and music. In some systems, the ancient languages are relied on almost exclusively for mental culture, and English, with a little mathe-

* Carlisle describes four hundred and seventy-five institutions in his work entitled "A Concise Description of the Endowed Grammar Schools of England and Wales," &c. London, 1818.

matics, history and geography, are admitted into the course; in others, the French is introduced, and the branches subordinate to the classics are raised somewhat in importance; in others, the modern languages, mathematics, and a knowledge of nature, are made prominent, the classics and English being, however, the basis of instruction; in others, the leading principle of organization appears to be to restrict the instruction in the dead languages, as far as may be done consistently with giving a sufficient knowledge of them for future use, with a view to dwell especially upon the modern languages and the sciences. There are instructive examples of all these classes of secondary schools in Great Britain, and of many varieties between them, specimens of some of which I shall endeavour to select. In weighing the advantages of the several plans of education, it would be exceedingly satisfactory could the data be obtained for following, in life, so many of the pupils from establishments of the different kinds, as to form an average estimate of the results which each can produce. In the absence of these conclusive documents, the difficulty of obtaining which is too obvious to need pointing out, I have endeavoured to procure such general information as was possible of the results of the systems, to state fairly where this information is defective, and to supply the deficiency, as far as practicable, by general reasoning.

Information in regard to the results of plans for moral and physical education is chiefly to be sought in schools in which the pupils live, as well as receive instruction. These afford, especially in their government and discipline, varieties not less marked than those in the plans of instruction themselves. I shall, therefore, introduce notices of some of these schools, with a special view to these characteristic differences.

It is impossible to look with an unprejudiced eye upon the present state of secondary instruction preparatory to the universities in Great Britain, and to compare it with what is recorded of its former condition, without perceiving that it has slowly changed for the better.* It is in fact even now changing.

* Improvements will probably become more rapid under the enlightened regulations of the London University, recently established by act of parliament.

The other great branch of secondary education for the higher occupations, for commerce, the arts and trades, will, I have no doubt, be efficiently introduced before many years. In fact, the steps taken by the University of Durham, by King's College, and by the London University College, for introducing courses of civil engineering, constitute an important era in this grade of public instruction.

In giving an account of the secondary schools, I shall begin with those of Scotland and of the north of Ireland, which are closely connected with them, then proceed to the public schools of England, and finish by the private schools of the same country. For reasons before stated, when speaking of the materials of instruction, and for others which will appear in the notices of the schools, I have selected the following for description: in Scotland, the Edinburgh Academy and the Glasgow High School, both public institutions, and the Hill-street Institute of Edinburgh, a private school; in Ireland, the Belfast Academy and academical department of the Belfast Institution; in England, the grammar schools of Rugby and Harrow, and the private schools of St. Domingo House, near Liverpool, and of Bruce Castle, near London.

## EDINBURGH ACADEMY.

Edinburgh has two public classical schools, which are quite celebrated, the High School and the Academy. The latter, which I visited under circumstances more favourable to the understanding of its arrangements, may serve as the type of both. With this I shall compare the Glasgow High School, and the Belfast Academy and Academical Institution.

The Edinburgh Academy was founded in 1824, to supply the demand produced by the increase of the population and extent of the city of Edinburgh. It seems also to have been an object with the founders to require more thorough teaching in the branches of an English education, than was then the case in classical schools generally. Their choice of a rector* shows,

* The venerable Archdeacon William, an Oxford scholar.

however, that there was no design to diminish the amount of attention paid to the ancient languages.

The government of the academy is vested in a board of directors, who manage the concerns of the institution generally. They are elected by the proprietors, who meet annually for this purpose, three of them retiring each year. The special superintendence of the school is delegated to the rector, who is also head master, and gives instruction in the two higher classes. He is expected to visit the rooms of the different masters, devoting at least two hours per week to this duty. Indeed, the directors have found it to the advantage of the institution to free him as much as possible from teaching, that he may give more of his time to the superintendence of the other teachers.

There are four masters beside the rector, and, in addition, a special teacher of English, one of mathematics, one of writing, and one of French. Each regular master has charge, on the average, of about forty-nine pupils, giving them instruction principally in Latin, Greek, geography, history, and English.

The writing-master has also charge of the younger classes in arithmetic, and teaches book-keeping. The whole school, however, is divided into seven classes, the three higher of which are taught the classics by the rector, with one of the regular masters as an assistant for each class.

It is required of pupils admitted to this academy that they have completed their elementary studies, and are prepared to begin the ancient languages. They are from seven to nine years of age, and must have attainments equal to those of the highest boys' class of the Circus Place school, already described. The number of pupils in 1835 was three hundred and forty-four.

The following were the courses taught in 1835 and 1836, with the distribution of them among the seven classes.

FIRST CLASS.

Latin. *Rudiments* with the rules of syntax, and vocabulary of conjugated verbs. *Delectus* commenced. *Grammatical exercises* commenced.

Geography. Outlines of Europe, Asia, Africa, and America, with the particular geography of England and Scotland.

HISTORY. *Simpson's* History of Scotland.
SCRIPTURE BIOGRAPHY, commenced.
RECITATION of poetry.
ARITHMETIC. Four ground rules. Reduction, compound addition, &c.

SECOND CLASS.

LATIN. *Rudiments* revised. Irregular verbs and rules for genders of nouns. *Delectus* and *grammatical exercises* continued.
GEOGRAPHY. Portugal, Spain, France, Holland, Belgium, Switzerland, Italy, Austria, the smaller German states, Prussia, and Denmark.
HISTORY. *Simpson's* History of England, commenced.
SCRIPTURE BIOGRAPHY and RECITATION, continued.
ARITHMETIC, continued through compound addition, &c. Reduction of weights and measures, vulgar fractions, the ground rules.

THIRD CLASS.

LATIN. *Cæsar*, Books 1st and 2d, Gallic war. *Electa ex Ovidio. Grammatical exercises. Rudiments*, with the Latin rules for the genders of nouns and prosody. Third book of the Gallic war read by the highest thirty pupils.
GREEK. Rudiments through the verb. *Extracts.*
GEOGRAPHY. Denmark, Sweden, Norway, Russia, Turkey in Europe and Asia, Arabia, Persia, Hindostan, Eastern Peninsula, China, Thibet, Tartary, Russia in Asia, and Asiatic Islands.
HISTORY. *Simpson's* Roman History.
SCRIPTURE BIOGRAPHY and RECITATIONS, continued.
ARITHMETIC. Revision, through simple proportions.

FOURTH CLASS.

LATIN. *Virgil*, 1st eclogue. Æneid, 1st and 2d books. *Sallust.*
*Mair's Introduction*, commenced.
*Rudiments*, with rules for gender and prosody. Written exercises, in prose and verse.
GREEK. *Extracts. Rudiments*, revised. (Two divisions of the class in unequal progress.)
GEOGRAPHY. Modern Geography, completed.
HISTORY. *Simpson's* History of Greece.
SCRIPTURE BIOGRAPHY, AND RECITATIONS, continued.
ARITHMETIC. Practice. Simple and compound proportions. Interest. Discount. Partnership. Profit and loss. Fractions.

FIFTH CLASS.

LATIN. *Virgil.* Æneid, 2d book and 6th eclogue. *Horace's Odes*, 1st and 2d books. *Livy*, part of 21st book. *Introduction and rudiments*, continued.
GREEK. Xenophon's Anabasis, 1st book and part of 2d. Homer's Iliad, 1st book. *Dunbar's Introduction. Greek Testament.* St. John. *Greek rudiments*, revised. Exercises, in prose and verse.

GEOGRAPHY. Modern Europe, revised. Roman Empire.
ENGLISH. *Milton's* Paradise Lost, read. ELEMENTARY SCIENCE.
ARITHMETIC. Revision. Vulgar and decimal fractions; duodecimals, square and cube root.
GEOMETRY. Euclid, book 1st.

SIXTH CLASS.

LATIN. *Horace's* Odes, books 3d and 4th. *Virgil*, 2d and 4th Georgics. *Livy*, 21st book, completed. Part of 22d book. Exercises.
GREEK. *Sandford's* Homeric Exercises, Part 2d. *Homer's* Iliad, 2d book. *Xenophon's* Anabasis, 4th and 5th books. *Sophocles'* Œdipus Tyrannus. *Greek Testament*, St. Mark. *Exercises*, in prose and verse.
GEOGRAPHY. Greece, Macedonia, Thrace, Grecian Islands.
ENGLISH. *Campbell's* Pleasures of Hope. Tragedies of Henry VIII. and Coriolanus. *Irving's* Elements of English Composition.
ARITHMETIC. Revised.
GEOMETRY. Euclid, 1st four books.
ALGEBRA, to Quadratic Equations.
FRENCH. *Levizac's* Grammar. *Cours de Littérature.*

SEVENTH CLASS.

LATIN. *Horace's* Epistles and Ars Poetica. *Cicero*, Selected Orations, &c. *Terence*, the Adelphi. *Tacitus*, Germany and Agricola. *Adams'* Antiquities.
GREEK. *Homer*, 9th book of Iliad. *Sophocles*, Antigone. Part of *Herodotus*. Exercises.
GEOMETRY. *Euclid*, six books. Trigonometry. Surveying. Navigation. Mensuration. Algebra.
FRENCH. *Levizac's* Grammar. *Cowper's* Letters, translated into French. *Cours de Littérature.* Fables. Tragedies of Cinna, Iphigenia, and Zaire.

The Bible is read for an hour every Monday morning, and the school is opened with prayer. The following table, compiled from the report of the rector to the directors of the academy in 1836, gives—though not so definitely as might be desired—an idea of the proportion of time allotted to different objects of study.

Distribution of time in the principal departments of study in the Edinburgh Academy.

| SUBJECTS OF INSTRUCTION. | NUMBER OF HOURS PER WEEK. | | | | | | |
|---|---|---|---|---|---|---|---|
| | Seventh Class. | Sixth Class. | Fifth Class. | Fourth Class. | Third Class. | First and Second Class. | Total.‡‡ |
| Latin and Greek, - - | 18* | 15† | 18½‡ | 17 | 20 | 14½§ | 117 |
| English,‖ - - - - | | 4 | 4 | 2 | 2 | 6½¶ | 25 |
| French, - - - - - | 6 | 3 | | | | | 9 |
| Arithmetic & Geometry, | 6 | 5 | 5 | 5 | 3 | 3** | 30 |
| Natural Philosophy, - | | | ½ | | | | ½ |
| Scripture Biography, | | | | ½ | ½ | | 1½ |
| Geography, - - - - | | 2 | | 1½ | | 1½ | 6½ |
| Writing, - - - - - | | | 2 | 3 | 5 | 3†† | 16 |
| Total, - | 30 | 29 | 30½ | 29½ | 30½ | 28½ | |

The general system of teaching is that usual in the English and Scottish schools. Text-books are multiplied, and the pupils come to the institution mainly to be examined on the lessons learned out of it. The lower portion of a class, however, probably obtain the greater part of their knowledge by the drilling which takes place in the recitation. The extent of this drilling, and

* Includes geography and composition.
† Includes composition.
‡ Besides geography.
§ Latin alone.
‖ Includes history.
¶ Includes Scripture Biography and spelling.
** Arithmetic and writing are together set down at six.
†† Writing and arithmetic, six hours.
‡‡ In forming the total, the numbers of the sixth column have been doubled.

amount of extra information communicated, depend upon the master, and upon the character of the course. For example, in the rector's class I heard an excellent extemporaneous lecture, or conversation, on ancient geography, introduced during a recitation upon a lesson in Livy, and these occasions are always rendered available by collections of maps and models which belong to the academy. The system is, however, essentially one of recitations of fixed portions of a text-book, the book, and not the teacher, being looked to as the principal source of information. In arithmetic the black-board is much used, and the English department has the advantage of the superintendence of Sheriff Wood, one of the directors, and will, I doubt not, come, in the end, to be more appreciated than at present.

The stimulants to exertion are, besides the approbation of the teacher, changes of place in the classes during the daily recitation, places at the end of the session, and public examinations, with the award of prizes. A register is made at intervals of the places of the pupils, and the result of its summation determines the standing of the individual at the close of the session. Recently, the practice of examining in writing has been introduced in the seventh or highest class, in addition to the usual viva voce method. Questions previously prepared by examiners not connected with the academy, on the different subjects of study, were placed before the class to be answered, and the result is stated to have been satisfactory. This excellent method is adopted from the English universities.

In order to show the results of the system of education in a particular school, it is usual to have recourse to the arbitrary standard of the success of certain pupils in higher institutions. Average success in after life would afford some test of the value of the education, but that of a few distinguished individuals proves chiefly that men of superior intelligence have at some time or other been connected with the school, and that they have not lost their powers by the course, without showing that their education has been the best possible. When, instead of considering general success in life, the more limited standard

of success in a higher institution is assumed, then it shows rather the adaptation of the lower education to the higher, than that the lower is good in itself. The test is, therefore, essentially defective, but, by extending the comparison to the career of many pupils, in a number of institutions, each of a different scope, it becomes of some value.

The cases presented by the directors of the Edinburgh Academy, in their reports for 1835 and 1836, as tests of the condition of the institution, appear to me too few to give a correct notion of the average success of pupils for either of these years, the greatest number of pupils spoken of, from any one class, being eight, or but about one-sixth of the class. The number of higher institutions in which they have gained honors is, however, more satisfactory than the number of cases, embracing the Universities of Edinburgh, Glasgow, Cambridge, Oxford and Dublin, the London University and Haylebury Colleges, and the Military School at Sandhurst. The number of different departments in which they have gained distinction is also quite satisfactory, and the inference, on the whole, is certainly favourable to the intellectual development which may be obtained at this institution.

The discipline of the school is generally mild, and there is an effort made to bring the influence of the parents to bear upon the progress and general deportment of the child.

### HIGH SCHOOL OF GLASGOW.

Having described the Edinburgh Academy somewhat minutely, I shall confine myself, in the notice of the High School of Glasgow, chiefly to the peculiarities of arrangement in the latter, which result from certain differences in the objects of the two schools. Though the High School of Glasgow stands in the same relation to the university of that city as the academy does to that of Edinburgh, and, indeed, is more intimately connected with it, the former institution has also other objects, namely, to afford elementary instruction, and to educate youth for the pursuits of commerce, manufactures, and the arts. The high school has separate courses of English, classics, mathe-

matics, writing, and drawing, any one of which may be followed alone, or several at a time. The hours of recitation are so arranged as to admit, as far as possible, that a pupil may pursue those courses which it is thought should be simultaneous. In the academy, as has been seen, the course is indivisible, and all its branches must be pursued by the student. The principle of equality among the teachers is carried out so impartially at the high school, that as two classical masters are required for the number of pupils who pursue that course, those who enter each alternate year constitute the class of its two masters respectively. The plan of organization is attended with the defect of want of uniformity in methods, and of adaptation to each other in the several departments, but it has the advantage of enabling pupils who are intended for different pursuits in life to follow the studies most appropriate to them, and thus supplies, in part, the place of the two establishments of Germany, the gymnasium and the real school. The future merchant, manufacturer, and mechanic, may pursue together the courses of English, French, mathematics, drawing, and chemistry; the first may continue French and enter the commercial school, the second, mathematics and drawing, and enter the same school, while the third continues mathematics, drawing, and chemistry. This arrangement of the school adapts it to the wants of a manufacturing and commercial city, though I am satisfied that two schools, each with a fixed course of instruction, would answer the end proposed much better.

The *classical department* prepares for the University of Glasgow, and as pupils may enter there at an early age, and require no very advanced attainments for admission, the studies of this school are comparatively elementary. The course lasts four years, and a private class may be followed for a fifth, by those who do not intend to pursue an academical career, or who wish to begin it better prepared than is usual. Greek is begun in the third year.

The *English department* answers two purposes; it prepares very young pupils for the other classes, and it carries forward

the more advanced through the higher courses of grammar, logic, and belles lettres.

This admirable course may be thus arranged, according to the subjects:

I. Alphabet Class. Reading and spelling taught. Lessons on objects. *Class books.* Wood's Elementary Books. Elliot's Natural History.

II. English Reading Class. Bible teaching and training as the foundation of moral and religious knowledge. Readings in Biography, Natural, and Civil History, Elementary Science, &c. Grammar for beginners. Spelling, meaning, and derivation of words. *Class books.* The Bible, Companion to the Bible, Wood's Instructive Extracts, First Grammar, English Etymologist.

III. English Reading Class. Lessons in Natural History, Manufactures, &c. illustrated by specimens and experiments. Grammar incidentally. Spelling orally and by dictation. Elements of composition by weekly practice in letter writing. *Class books.* Book of Trades, English Etymologist, Parley's Natural History.

IV. History Class. Familiar Lectures, Ancient History and Biography, Modern History.

V. Readings from the British Classics. Grammar and composition. Recitations.

VI. Grammar. Science and art of grammar. Pronunciation. Orthography, by dictation. Derivation of words. Synonyms. Punctuation. Composition. Practice in letter writing, and in the analysis of narrative and descriptive pieces. *Class books.* M'Culloch's Grammar. Booth's or Irvine's Composition. Carpenter's Synonyms.

VII. Higher parts of Grammar. General Grammar. Outlines of Logic, with exercises in composition. Elements of Rhetoric and Belles Lettres, English Literature. *Class books.* Crombie's Etymology and Syntax. Duncan's Logic, or Abridgment of Whately's Logic. Abridgment of Blair's Lectures.

Each of these classes has, in general, one hour of recitation every day, but the more advanced pupils attend, usually, more than one of them. The methods of teaching adopted by the English master* are among the best which I saw abroad. He has combined the knowledge of things with that of words. His pupils are as well trained in the knowledge

* Mr. Alexande J. Dorsey, who, having travelled on the continent and at home for improvement in methods of teaching, has adopted an eclectic method, which produces excellent results. He has especially studied the secret of the great success in the more modern German schools, and has followed out their methods.

of realities as in a school of a disciple of Pestalozzi, and in verbal knowledge as those of Mr. Wood. He relies more on the training of the school-room than is usual in England, and yet does not neglect the encouragement of study at home.

The lessons on objects are illustrated by neat cabinet specimens of minerals, geological specimens, objects of art, &c. Mineralogy is early introduced, as affording a pleasant stimulus during the walks of the pupils. Practical geology is, to a certain extent, useful in the same way; but I cannot assent to the introduction of theoretical generalizations, which are received by the pupils as established principles, and which make it difficult for them, in after life, to separate the theories of the science from its facts. A knowledge of trades forms a second part of this instruction, and the various establishments of Glasgow are visited by the teacher and pupils. Habits of observation, of analysis, and of order are thus inculcated, while much knowledge, not only of art, but of the people among whom they are to move, is acquired.

The method of teaching orthography seems to me an improvement upon that of the German schools. Besides the ordinary system of dictation, the master writes upon the black-board, by direction of one of the class, a word which is to be spelled, the pupil naming the letters. Criticism is called for from the class, and among those who signify, by a sign, that they wish to make a correction, the master selects one. He alters the word, according to the direction of the pupil, submits it anew to criticism, and so on. The whole class is thus kept alive, a result which marks the ability of a teacher, in a way not to be mistaken. The same words are parsed in the grammar class, the use of the black-board enabling the teacher to make the instruction really simultaneous, where, otherwise, it would be individual.

Themes, or short essays, intended to introduce words assigned by the teacher, and more advanced essays, upon specified subjects, are written by the pupils, and read in the class, attention being roused by permitting criticism by the pupils themselves. In the reading lessons, correction by any one of the

class is allowed, the successful corrector taking the turn of the reader. These, and various other applications of the same general principle, of rendering the instruction simultaneous, make this school very remarkable. The arrangement of the school-room, with benches on raised platforms, is an important aid in the use of the method. The paraphrases of Whately's Logic, and other exercises in this branch, which I heard from the elder pupils, were very good. The historical lessons were illustrated by numerous drawings, calculated to convey accurate general information, and to impress the memory through the eye. The pupils change places, as in other schools, though this forms by no means the main dependance of the teacher for securing attention. Corporal punishment is not at all resorted to.

Between each hour of recitation is an interval of ten minutes for recreation, during which, also, the air of the school-room is thoroughly changed. Both these are important details, and are very commonly overlooked.

The *commercial and mathematical department*, besides uniting in a complete course with the classical and English departments, gives special instruction to clerks, book-keepers, surveyors, navigators, &c. The branches taught are geography (principally to pupils from nine to twelve years of age, from the other departments), physical geography, and the elements of astronomy, arithmetic, geometry, trigonometry, heights and distances, mensuration, algebra, including quadratic equations, and logarithms. The higher mathematics, including the differential and integral calculus, and the elements of natural philosophy. The *department of foreign languages* furnishes instruction in French and German. The *writing and drawing departments* are each under the charge of a separate master, and the first is subsidiary, in a degree, to the general objects of the school. A *chemical course* has recently been added to the foregoing, on a plan to which I shall refer more particularly hereafter, in which the pupils manipulate. It is intended for boys from seven to fourteen years of age. The high school possesses a library and an increasing collection in natural history. It furnishes, by the private exertions of its teachers, to the in-

habitants of Glasgow, in addition to the regular courses for youth, others for adults, which, in some departments, are well attended.

While this freedom of choice among the courses has advantages over the exclusive system, which allows no *variation in the studies*, even where pupils are intended for different lines of life, I confess that I should much prefer a more simple arrangement, the parallel courses in the different schools being so regulated that the choice of branches of study would not devolve upon parents, who are most generally unwilling, and often unable, to judge in such matters. The destination of the pupil having determined which of the parallel schools he will enter, he should find a regulated course for him to follow. A facility of transfer from one school to another would remedy mistakes, or enable changes of purpose to take place. Such establishments might be under a common head, or be governed by a board of teachers, if it were considered desirable to unite them, and thus to realise the advantages which result from uniformity of methods in the different schools.

## BELFAST ACADEMY.

The Belfast Academy has all the advantages of a general superintendence, with that of the division into particular schools. It consists, in fact, of four schools, a classical, mathematical, English, and writing school. Over each of them is a master, chosen by the trustees of the academy,* and the whole is superintended by a principal, who has the chief direction of the dis-

* Formerly, the choice of masters was vested in the principal, who has recently preferred to relinquish this right, as making the masters more independent, and, therefore, securing better men. The principal of this academy, Dr. Bryce, is among the most enlightened teachers of Great Britain, and his experience is equal to his talents in his vocation. A thorough classical scholar, and upholder of a complete classical culture, where it is attempted, he freely admits the claims of natural, mathematical, and mental science to a place in a full course, as deductions from both theoretical and practical grounds. In giving instruction to teachers, Dr. Bryce labours to inculcate principles rather than methods, and in selecting a teacher, places more stress upon the ability to teach, than upon actual knowledge. Dr. Bryce proposes, for the science and art of education, the term Pedeutics.

cipline and instruction. The principal is also the classical master, and has the privilege of taking boarders in his family, so that this may be considered, in part, as a boarding-school.

The discipline is of a mild and paternal character, though negligence is by no means tolerated, and corporal chastisement is resorted to when milder punishments have proved unavailing.

The classical course prepares for entrance into Trinity College, Dublin, or carries the pupil through the higher studies, including the Hebrew.

It would be useless to go into a recapitulation of the authors read, an example of a school of this grade having already been given; and I should not succeed in conveying in writing an idea of the spirit of the Principal, which constitutes the excellence of his method. It carries out individual teaching to a great degree of perfection; watching studiously the workings of the pupil's mind, and entering it by the avenue where it is found most accessible, illustrating, reasoning, and repeating, unfolding to the understanding before asking the memory to take cognizance; encouraging to self-exertion, reproving, and persuading—comparing the pupil frequently with himself, that he may see the progress which he has made. This system of individual teaching is as remarkable as the simultaneous method of the English department of the Glasgow High School.

The experience of this institution may be confidently appealed to in favor of the introduction of the elements of natural history into similar schools; it has not only been found to act favourably by a direct development of the intelligence, but to react also as a stimulus to the classical studies, from the terminology which must be employed even in the elements of the science. Under the direction of the mathematical master, the pupils have a natural history society, which has collected a very tolerable museum, and which serves to induce exertion out of the school-room.

In the writing school, a substitute has been tried with success for the usual practice of determining places in the class by comparative trials of skill between different individuals, namely, to fix the places according to the degree of improve-

ment of each member of the class. In general, the head master of this institution is opposed to the system which acts entirely through emulation. Comparison of the same individual at different periods with himself he considers more correct in principle, as doubtless it is, and where individual teaching can be practised, it may be used to a great extent. Where a school is efficiently conducted, it is by no means necessary to rely exclusively upon emulation as the governing motive, though I do not believe that it can be safely laid aside entirely even then, or that a character formed without its influence will be fitted for after life. Besides the method just referred to above, and by which the pupils are graded at stated intervals, the constant practice is to hear from them a criticism on their own writing lesson, consisting in a comparison of what they have produced with the copy which has been set them to imitate.

In addition to the natural history society, there is another among the pupils of this school for declamation, &c., the exercises of which are found beneficial.

### ROYAL BELFAST ACADEMICAL INSTITUTION.

There is a second institution in Belfast, which, while it covers the same ground as the academy, extends its courses into the domain of superior instruction. It presents some peculiarities of government and arrangement, and which, as far as they belong to the lower, or academical department, should be noticed here.

This department consists of the following schools: "English and geography," "arithmetic and mathematics," writing, classics, "French and Italian," and drawing. Each school is under a head master, who has assistants when required. The masters form a board, over which one in turn presides, for the regulation of the whole, subject to the inspection and control of the visitors and managers of the institution. Certain of the teachers are allowed to take private pupils as boarders, who are, in regard to the domestic concerns, entirely under their control. The Board of Masters, with a Principal, would, it appears to me, unite the various advantages which I have pointed

out in describing the different kinds of organization for government and discipline.

The method of free courses is combined with that of a regular gradation of instruction. The Board of Masters recommends a certain course to be pursued, consisting of the English, writing, and arithmetical departments, or, when the pupil is further advanced, of the English and writing, classical and mathematical departments, and including the modern languages and drawing, when desired. At the same time the courses are entirely free, and if the parents do not abide by the recommendation of the board, the responsibility of a choice in the departments rests with them. The time from ten o'clock A. M. to three P. M. is divided into four periods of an hour and a quarter each, and a pupil attends the schools in rotation, or may attend one for the whole four periods. The classical and English schools are those to which the arrangement of the rest is subordinate: they have regular classes, and the irregularities are made to fall upon the writing and mathematical schools, in which there are no fixed divisions of classes. The teachers of French and of drawing hold their exercises at hours which do not interfere with those of the other masters. The course of drawing includes the higher kinds of drawing and painting, as well as the elements.

There is a natural history society formed among the pupils, under the direction of the mathematical master, which has been found useful.

The number of pupils in attendance is about two hundred, under six masters and ten assistants, averaging thirteen to a teacher.

### EDINBURGH INSTITUTION FOR LANGUAGES, MATHEMATICS, &c., HILL-STREET.

This institution was undertaken by its principal* to ascertain

* Robert Cunningham, A. M., formerly head master of George Watson's Hospital, Edinburgh. This gentleman is now Professor of Languages in Lafayette College, Easton, Pennsylvania. The Hill-street institution at Edinburgh continues to be sustained upon the plans which he had adopted.

whether a much greater amount of instruction in science, and in the branches commonly called those of an English education, together with the modern languages, might not be communicated, without injury to a thorough classical culture. In describing it, I propose first to state the general arrangement of the institution, and then to enter into a comparison of its courses, as to character, extent, and results, with those of the Edinburgh Academy.

There are two distinct courses of study, one intended for those who wish to become professional men, the other for those of more limited views. The following is an outline of both courses, which extend over a period of about eight years, the pupil being supposed to enter between seven and ten years of age.

| Age. | PUPILS ATTENDING THE LATIN AND GREEK CLASSES. | PUPILS NOT ATTENDING THE LATIN AND GREEK CLASSES. |
|---|---|---|
| 7 to 10 yrs. | English, Latin, arithmetic, and writing. | English, including lessons on objects, arithmetic, and writing. |
| 9 to 11 yrs. | Latin, English, reading and grammar, geography, natural history, and writing. | English, French, geography, arithmetic, natural history and writing. |
| 11 to 14 yrs. | Latin, French, English, reading and grammar, geography, history, and writing. | English, French, German, English reading and grammar, geography, history, arithmetic, and writing. |
| 13 to 16 yrs. | Latin, Greek, French, German, English composition, history, mathematics, elementary science. | English, French, German, Italian, English reading, composition and grammar, geography, history, mathematics, elementary science, architectural and engineering drawing. |

The first of these courses is designed, like that of the Edinburgh Academy, to prepare pupils for the universities, the age on terminating it being, on the average, about seventeen. The second is intended to prepare for practical life, and is similar to that of a German "real school." I confine my attention at present to the first of these. The courses may be divided into classical, including Latin and Greek; English, including reading, grammar, composition, geography, and history; foreign

modern languages, including French and German; science, including arithmetic, geometry, the lower mathematics and elementary natural history, natural philosophy, and chemistry.

The attention of the pupil is called to more objects than in the academy. Is he able to pay sufficient attention to each? This may be determined, in part, by examining the progress made in the several branches, and as the English instruction is the basis of the whole, it will be proper to begin the examination with it.

First, as to the time occupied: The academy devotes twenty-nine and three-quarters hours per week, in seven classes, to English, including geography and history; the Edinburgh institution thirty-nine, in five classes, which cover nearly the same ground as to age. Next, as to the progress made in the two schools: Between the 1st of October, 1835, and the 26th of July, 1836, the following studies were completed in the Edinburgh Institution:

First English Class. Read and analyzed the sessional school collection. M'Culloch's English Grammar. Etymology. Geography of Europe, Asia, Africa, and America, and of England, Scotland, and Ireland. Lessons on Objects, part first. Poetry, committed to memory.

Second English Class. Read and analyzed two hundred and forty pages of Wood's Extracts. M'Culloch's Grammar. Etymology. Latin and Greek prefixes. Geography of Africa, North and South America, and of England and Ireland, France, Belgium, Holland, Spain and Portugal, Switzerland and Italy. Natural history.

Third English Class. *Higher division.* Wood's Instructive Extracts read and analyzed. Lennie's Grammar. Geography of England, Scotland, Ireland, and France; studied maps of Holland, Belgium, Switzerland, Italy, British America, and the United States. Outlines of natural history. Written exercises on the weekly lectures of natural history, and outlines of geology and mineralogy.

History and Geography Class. Minute geography of Portugal, Spain, France, Belgium, and Holland, Switzerland, Italy, and the Austrian empire, the smaller German states, and Prussia.

*Academy Geography.* Denmark, Germany, Sweden and Norway, Western Russia, Turkey in Europe and Asia, Hindostan. Decline and subdivision of the Western Roman empire. Rise of the kingdoms established on its ruins. Eastern empire. Kingdom of the Franks. England and Scotland.

History of the progress and extension of the Mahometan power. France, to the death of Louis IX. German empire and Italian states, from Charlemagne to the death of Frederick II. Norman dynasty in Italy. Spain, to the expul-

sion of the Moors. England, to Edward I. Scotland, to Alexander III. Turks, crusades, and kingdom of Jerusalem.

Occasional essays and regular exercises twice a week.

MATHEMATICAL and PHYSICAL GEOGRAPHY.

ENGLISH LITERATURE and COMPOSITION. Read and analyzed Thompson's Seasons, Milton's Paradise Lost, Books 4th, 5th, and 6th. Chambers's English Literature. Paley's Natural Theology and Written Exercises. Original Essays.

The greater extent of this programme is in proportion to the greater amount of time devoted to the English studies in this school than in the academy, especially in the lower classes, which are also those where the excess in time is the greatest. To be more minute—the courses of geography, history, higher English reading, and composition, do not differ materially in extent in the two schools, but the elementary course of grammar and reading of the institution, the frequent verbal analyses and etymological exercises, render its studies in this department much more complete than those of the academy; indeed, they form the basis of a superstructure which must be imperfectly raised in the fifth class of the academy without them. From my own observation, I am sure that the ordinary Latin and Greek exercises are not a substitute for the etymological exercises introduced by Mr. Wood. The former exercises render the latter very easy, and give great advantages in a complete understanding of them, but the latter cannot be dispensed with, or left to the unaided ingenuity of the pupil to follow out. Experience proves that he requires to be directed in this valuable application of ancient language; and in the extension given to this subject, the course at the institution had a superiority, in 1836, which it is possible it may not retain, since the English department of the academy has now been for several years under the charge of Mr. Wood. The mode of teaching history by conversational lectures, combined with the study of a text-book, and illustrated by maps, drawings, &c., used in the institution, is much to be preferred to the dryer method of the study of a text-book and recitation, employed at the academy. The frequent recurrence of the names of the same countries in the list of geographical exercises of the institution, is to be explained by the mode of studying geography adopted, in which

the particular countries are dwelt upon with various degrees of minuteness, in successive courses, according to the interest which may be supposed to attach to them; the first lessons containing a general outline of the whole.

It remains to be seen whether this superior development in the English studies is consistent with a due attention to other branches. Of these, the study of the ancient languages ranks next upon the programme. In the academy, these studies occupy from fifteen to twenty hours per week, in the different classes, and in the institution, from ten to fifteen. The greatest disproportion is in the lower classes. Notwithstanding this, the programmes of the Latin studies in the five classes of the institution are almost exactly the same with those of the first five of the academy: the books read and the amount of study in the several years being also nearly the same. But, then, in the academy there are two classes which have not their parallels in the institution, namely, the sixth and seventh; so that, whatever advantages are to be derived from the higher classical studies, must be reckoned against those of the institution in other courses. In this will be found the true difficulty of the estimate, for though I believe that with teachers of equal abilities the same progress will be made in fewer hours if the studies are not exclusively classical, yet this cannot be carried beyond a certain point, and we cannot have the advantages of ancient and modern languages, and of mathematical and physical science, without extending the time for the course of education. Such is the experience of many classical teachers.

In composing the courses in the modern languages, those of the institution appear to have decided advantages. There are two classes for the French in both the academy and institution. In the former school four hours and a-half per week are allotted on the average, and in the latter five hours, to each of the courses. In the latter school there is also a class for the German language, to which three hours per week are devoted. There appears no where to be any variance of opinion as to the fact, that the modern languages are inferior, as means of intellectual training, to the ancient. They are, in fact, not intro-

duced into the courses, mainly for this purpose. The object is, usually, to acquire a facility in reading them; the power of using them for conversation, and in writing, is further sometimes aimed at, though the time allotted to them seldom allows the attainment of such a result. The methods of teaching them are, generally, and should always be, adapted to these ends, and hence essentially different from those appropriate to the dead languages. All experience shows that the earlier they are attended to, the greater facility there is in their acquisition, and they should, therefore, by no means be postponed longer than the period of secondary instruction; and, indeed, when it is practicable, there would, I believe, be great gain in beginning them in the elementary course. It should be remembered, that the reflecting faculties are naturally little developed in early youth, while the memory for words, as well as for things, is strong, and instruction at this period should be directed accordingly. It is true, that a knowledge of the ancient lends great aid to the study of the modern languages, but I am persuaded that the gain is not equivalent to the loss from postponement. If the object be to learn to speak a language as well as to read it, the flexibility of the organs of speech in early youth renders a beginning at that period almost essential to success.

The courses of science are raised into high comparative importance in the institution. The attention paid to arithmetic is much greater than in the academy. In the first three classes of the former five hours per week, and of the latter but three, are devoted to this branch, so that in the higher classes the course of the academy falls decidedly behind that of the institution. If it were in the amount of progress only in which the academy was behind, I should make but little objection to it, for it seems to me that the higher branches of mathematics are better reserved for superior instruction, unless in special schools; but, then, the amount of intellectual culture to be gained by the exercises of arithmetic and algebra, appears to me to be undervalued. Arithmetical analysis, if not as important an intellectual habit as that of language, is by no means to be neglected, and, in addition to the ready use of figures, or the art of the

accountant, forms a most important part of education. Mental arithmetic I have already often remarked upon as a most useful branch, and I do not think the time devoted to this, and to the practice of written arithmetic in the institution, at all too great. The course of geometry in the two schools is the same. The time spent in the study of trigonometry, and the applications to mensuration, &c., in the academy, is too small to secure any considerable progress.

The course of mathematics in the institution is as follows:

First Class of Arithmetic. The ground-rules and reduction. Compound addition, &c.

Second Class. Simple and compound division. Proportions and fractions. Practical arithmetical exercises. (Ingram's Arithmetic,) practice. Decimal fractions. Compound proportions.

Third Class. Compound rules. Reduction. Practice. Simple and compound proportions. Vulgar and decimal fractions. Interest. Equation of payments. Stocks. Loss and gain.

Fourth Class. Cunningham's Arithmetic. Vulgar and decimal fractions. Practice. Proportions. Commission. Interest. Chain rule. Stocks. Loss and gain. Barter. Distributive proportion. Insurance and exchange.

Fifth Class. Algebra. Primary rules. Simple equations. Problems. Algebraic fractions.

First Class of Geometry. In three divisions. The highest, studies six books of Euclid's Elements, and the Appendix of Playfair. Mensuration and plane trigonometry from Davidson's Practical Mathematics. Heights and distances. Examples and problems.

Second Class of Geometry. Revise 5th and 6th books of Euclid. Trigonometry, from Playfair's Appendix. Mensuration from Davidson. Simple and quadratic equations from the same. Wallace's Conic Sections. Mensuration of solids and specific gravities, from Davidson's Practical Mathematics. Spherical trigonometry. Geographical and astronomical problems.

The higher mathematics, and even in a much greater amount than the one just stated, is indispensably necessary to a course intended for such occupations of practical life as those of the civil engineer, architect, or mechanician, but I doubt the importance of it in a general course, preparatory to a college or university. The advantages which a special professor, devoting all his energies, will have in the powers of communicating such instruction over a teacher who is occupied with many other things in addition, is too obvious to need discussion. As an

instrument of general training, under these circumstances, the higher mathematics are, in my opinion, of inferior value to other branches.

The courses of the elements of natural philosophy and of natural history in the institution are very appropriate. That of chemistry, as taught by Dr. D. B. Reid, of Edinburgh, is one of the most useful and interesting exercises of the student. The professor assembles a class from the institution in his laboratory, places them at tables, with the materials for experiment before them, orders different experiments by the several groups into which the class is divided, receives their explanation of the operations in the hearing, and inspects the results of each within the view of the whole class, and thus exercises the perceptive and reflective faculties and mechanical skill of the student, and accustoms him to describe as well as to execute and observe.* When treated in this way, chemistry becomes highly worthy of a place in a general system of education. The plan is very similar to that in use at the La Martinière school at Lyons, already described, though, very properly, the tendency here is more general than practical. Dr. Reid has many classes, besides this one of the institution, under a similar course of instruction.

The morning of every Saturday is devoted in this school to religious instruction. The pupils are divided into four classes, the youngest of which read the Scriptures, and are examined upon them, and on Wood's Biography of the Old and New Testaments. The oldest class have lectures upon the Evidences of Christianity, and read the Scriptures, with explanations by the principal.

In a general review of this comparison, it appears that the courses of the institution are more numerous, and all, except the classical course, cultivated to a greater extent than in the academy. The deficiency in the latter appears chiefly due to the

* All the experiments are made upon a small scale, and, in general, with such common apparatus as slips and rods of glass, paper, &c. The chemical tests are used in very small quantities. Hence the expense of these lectures is quite trifling.

considerable effort made to extend the instruction in mathematics into the higher branches, and to the introduction of two modern languages. The general arrangement of the courses in the institution resembles that of the gymnasia or grammar schools of northern and central Germany, but in the very points just stated, in reference to classics, mathematics, and the modern languages, differs from them. An appeal, therefore, to the results of those admirable schools induces me to prefer the restriction of these courses, for youth preparing for the professions, within the limits necessary to the full development of the classical course. At the same time, I consider that the importance given to the English exercises in the institution, the general extension of the studies in the lower mathematics and in elementary science, all of which I believe to be compatible with the attention to the languages, are real advantages which may be claimed by the institution.

### GRAMMAR SCHOOL AT RUGBY.

The grammar schools in England which have attained the highest distinction, are of the class which receive boarders. Of these the school at Rugby now stands among the first, from the character of its head master* and his associates. I have compiled, from my notes of information derived at Rugby, and from the account given in print by the principal† himself, a

* The Rev. Dr. Arnold. I visited Rugby with letters, which produced much courtesy and frankness of intercourse, but found that custom—the law of the school—did not admit of the presence of a stranger at the recitations of the classes, or his visits to the rooms of the pupils while at study. This seemed to me so strange, after being admitted freely even to private schools, that I stated my wishes to the Rev. Head Master, and understood distinctly from him that he had never heard of such a thing as the presence of a visitor during the recitation of an English grammar school. Mr. Bowning Price, one of the masters to whom I was addressed, received me with much hospitality, and very kindly gave me the information which I asked, but even in his house etiquette did not permit him to introduce me into the study-rooms of his pupils.

I had occasion to verify Dr. Arnold's remark, in the case of two other grammar schools into which I endeavoured, without success, to obtain admission; at Christ's Hospital, however, which ranks with the public grammar schools, I was freely admitted to all parts of the institution, as has already been stated.

† Rugby School. Quarterly Journal of Education, vol. vii. London, 1834.

sketch of the education received at this school, considering that the authentic nature of the materials authorized me so to do, though I can say little from personal observation as to the results of the system.

*Purpose of the school, general government, &c.* The school is intended for preparing students for the universities. It receives pupils of two different classes; the one called "foundationers" must be children of parents who have resided for two years in Rugby, or in certain parts of the adjacent country. These are educated gratuitously, and their number is not limited. They may enter at the age of seven, though eleven is considered a more suitable period. The others pay for their education, and are limited to two hundred and sixty in number.* In case the parent of a foundationer does not live in the town of Rugby, the pupil must board with one of the masters, and is thus on the same footing as the other students.

The buildings containing the dwelling of the head master, the chapel, library, recitation rooms, &c., are in the Elizabethan Gothic style, very prettily arranged, and have an extensive common or play-ground at the back of them. The other masters provide their own dwellings, which are in different quarters of the town.

The school is governed by a body of trustees, who hold annual meetings at Rugby, but who may be summoned to special meetings, when required, at other places. In general their authority is delegated to the head master, who is elected by them, and the few laws enacted for the government of the institution are contained in the act of incorporation. The assistant masters serve as a council to the head master, by whom they are appointed, and besides holding regular meetings once a week, for the discussion of the affairs of their classes, may be convened at the pleasure of the head master.

*Moral education.* This is supposed to centre in the head master, upon whose character its success essentially depends, and

* The masters have, besides, established a scholarship, by subscription among themselves, of £25 per annum, which may be held for six years.

who is the pastor as well as teacher and governor. He has charge of the instruction of the highest class, called the sixth form, and from the important part which they play in the discipline of the school, has in this a high responsibility. The other masters are charged with maintaining order in their several rooms, but the head master alone has the authority to sanction corporal chastisement. He can suspend or dismiss a bad student, and corresponds frequently with the parents, that their influence may be brought in aid of his. When necessary, he advises the withdrawal of a pupil, but usually, when dismission is required, or in cases of difficult investigation, calls in the board of masters as council. It was stated to me that the system of "rights and privileges" of the pupils prevailed to a very injurious extent at this school, before the present administration, but by a calm, temperate, and free use of authority, the features considered most objectionable have been done away. The fact exemplifies the theory of the influence of the head master as the moral centre of the school.

The several masters take boarders, the number being only restricted by the accommodations of the houses. Some of the pupils have separate sleeping and study rooms, others room together.

The most striking peculiarity of the discipline of the institution is to be found out of school hours, when the main body of the pupils are freed from the direct control of the masters. The whole of the pupils residing in one house are then under the charge of the boys of the sixth form, or highest class, living with them, and are subject to their control during both play and study hours. These members of the sixth form, called at Rugby *preposters* (prepositi viri), are required to regulate the rising, attendance on prayers, meals, and recitations of those under them; to preserve order, and to prevent absence or visiting during study hours; to aid the younger members in their studies, and to afford them good counsel and example. To enable the preposters to preserve their authority, they are invested with the right to punish, by setting tasks, by confining to the study room,

and otherwise cutting off privileges. Besides this, they assume the right to chastise corporally, and have, by usage, many privileges not conferred by the regulations of the school, and which give them great power over the comfort and welfare of the junior pupils.*

This is the system known as "fagging" at Eton and Westminster, and though I was informed that it does not bear this name at Rugby, even among the pupils themselves, yet it is essentially the same in its rules, if not in its practices.

Though the preposters have privileges by rule, they are yet subject to punishments from the masters, which are, however, usually of a different grade from those of the junior pupils, to mark their station even in the results of deviation from duty. These pupils are not selected for their office, but acquire it by right of seniority, every member of the sixth form, or highest class, being a preposter. When it happens that too few of this form live with a particular master, or that those who reside with him are young, then transfers may be made from among those living with others, to secure the better action of the system. The fifth form are exempt from the control of the sixth, but have themselves no charge of discipline.

The spirit awakened by the head master in the pupils composing the sixth form, must, as before remarked, determine the character of this system of education, the master in whose house the pupils reside giving them up almost entirely to this artificial arrangement. There is a porter, who has, among other duties, that of preventing disorder, but he appeals for support to the preposters, and only in flagrant cases to the master, who thus steps in merely as a last resort, and is not the constant guardian of the youth nominally under his charge. The teachers who approve of this system lay it down as a principle, that the pupil must be superintended either by preposters,

* Among these usurped rights, the consequence of the law of the strongest, are the sending of their juniors upon errands, and imposing certain disagreeable duties upon them in their games. One of these latter, of which there are many, was found so injurious, that it was stopped by authority: it was obliging the lesser boys to leap the line at leap-frog, instead of the preposter. I mention it to show the character which this tyranny assumes.

or by ushers, and that all experience has shown the inefficiency of the latter mode of government. These methods, however, appear to me to form two extremes, neither of which is good. If the selection of the preposters was made on account of peculiar fitness for their office, the theory of this form of school government might be plausible; if they were required to act according to rules emanating from the masters, and deprived of their present usurped authority, the system would be less objectionable; and if, in addition, they were controlled by the active and constant superintendence of the masters, we should then have the enlightened system which is substituted for that of fagging in many of the best boarding-schools of Germany; without such changes the theory and practice cannot accord. It is admitted, even by those who uphold it, to be readily liable to great abuse, and to foster the dangerous spirit of the love of power. I am persuaded it never could have been suffered to exist as a system, in the schools of our country, and that it cannot continue under the reforms which must gradually be introduced into those of England. Enlightened masters, intrusted by parents with the care and guidance of youth, cannot always be blinded by custom to the true nature of their responsibilities, or willing to transfer them to those who are neither fitted by age nor by habit for the important charge.

The care of the pupils on Sunday is principally with the masters with whom they board, and morning prayers are said at the house before going to church. Some masters encourage the pupils to visit in their families, and hold religious lectures on Sunday, after the public duties of the day are over. At Rugby the attendance of the elder pupils on the communion is not made a matter of rule, but in general the sixth form, and many of the fifth, are communicants of the church. The younger pupils are not encouraged to come forward.

Pecuniary allowances are distributed regularly by the masters, who feel bound to check extravagances, when known to them, by correspondence with the parents.

The following is the *order of the day* in the boarding houses, varying somewhat with the season:—The pupils rise at six and

a-half, and go to prayers in the school at seven; breakfast at eight, dine at one, take tea at seven, and must be in the house in winter at a quarter before eight, the time varying with the season; have evening prayers in the boarding-house at eight o'clock, retire at a quarter before ten, and the lights must be out on the porter's visit at ten o'clock.

On half-holidays there is a roll called at three and five, P. M., to prevent the pupils from going too far beyond the school bounds. On Sundays they rise at half past eight, and attend prayers in the houses.

*Intellectual education.* So far as this is connected with the arrangements for study in the boarding-houses, it has been already described. For purposes of instruction, the whole number of pupils, about three hundred, is divided into eight classes or forms, each of which is instructed by one of the assistant masters,* or by the head master. These classes are designated as first, second, and third form, lower remove, fourth form, upper remove, fifth and sixth form; the object of this nomenclature being to preserve, for the highest or eighth class, the name of sixth form, which has long been applied to it in the English grammar schools;† a fact which may serve to illustrate the tenacity with which old customs are adhered to in these institutions. The pupils remain, in general, longer than a year in each class. The subjects of study are divided into three departments, that of classical literature, arithmetic and mathematics, and French. The members of all the classes below the sixth form are distributed in these three departments, according to their proficiency in each, the same pupils being thus usually not in the same form in all: but in the sixth form the same individuals are associated in all the departments, so that on reaching the sixth form in classical literature, the pupil passes at once to the same division in all the studies. This arrangement would be nearly impracticable if the mathematical and French departments were considered of high importance.

* Each of the assistant masters receives a salary and perquisites of £200, and his income from various sources rises to about 2500 dollars.

† The "magic name of sixth form."

Each master teaches in the three departments, though he may not instruct the same form in each. It is obvious, from this plan, that very moderate attainments are possible in the auxiliary branches, the classical department being the one upon which the strength of the school is exerted. This, in fact, essentially gives rank to the pupils while at the institution, and on entering the university. The system of special masters for the subsidiary departments was tried some years since, but failed, from causes which I did not exactly understand.

Each half year is divided into two equal periods, called "language time," and "history time." The books read in these two periods vary in several instances, the poets and orators being read principally during the former, and history and geography being chiefly studied during the latter. This will be more clearly seen from the following table of the general occupation of the school for a whole year.* It does not include, however, the exercises in Greek and Latin prose and verse which are required.

FIRST FORM.

CLASSICAL DIVISION. *Language time.* Latin grammar and Latin delectus. *History time.* Markham's England, vol. i. *Scriptural instruction, &c.* Church catechism and abridgment of New Testament History.

MATHEMATICAL DIVISION. Tables. Addition, subtraction, multiplication, and division, simple and compound. Reduction.

FRENCH DIVISION. Hamel's Exercises, up to the auxiliary verbs.

SECOND FORM.

CLASSICAL DIVISION. *Language time.* Latin grammar and Latin Delectus Eutropius. *History time.* Markham's England, vol. ii. *Scriptural instruction, &c.* St. Luke. Genesis.

MATHEMATICAL DIVISION. The work done in the first form repeated. Rule of three. Practice.

FRENCH DIVISION. Hamel's Exercises. Auxiliary verbs. Regular conjugations and some of the irregular. Gaultier's Geography.

THIRD FORM.

CLASSICAL DIVISION. *Language time.* Greek grammar (Matthiæ, Abridgment). Valpy's Greek Exercises. Valpy's Greek Delectus. Florilegium. Translations into Latin. *History time.* Eutropius. Physical geography.

* Journal of Education, vol. vii., p. 235, &c. The article is understood to be an authorized publication, and from the pen of the Rev. Dr. Arnold.

(Useful Knowledge Society.) *Scriptural instruction, &c.* Exodus. Numbers. Judges, i. and ii. Samuel. St. Matthew.

MATHEMATICAL DIVISION. Rule of three. Practice. Vulgar fractions. Interest.

FRENCH DIVISION. Hamel's Exercises, first part, continued. Irregular verbs. Elizabeth, ou les Exilés en Sibérie.

LOWER REMOVE.

CLASSICAL DIVISION. *Language time.* Greek grammar and Valpy's Exercises. Rules of the Greek Iambics. Easy parts of the Iambics of the Greek tragedians. Virgil's Eclogues. Cicero de Senectute. *History time.* Parts of Justin. Parts of Xenophon's Anabasis. Markham's France, to Philip of Valois. *Scriptural instruction, &c.* St. Matthew, in Greek Testament. Acts, in the English Bible.

MATHEMATICAL DIVISION. Vulgar fractions. Interest. Decimal fractions. Square root.

FRENCH DIVISION. Hamel continued and repeated. Jussieu's Jardin des Plantes.

FOURTH FORM.

CLASSICAL DIVISION. *Language time.* Æschylus, Prometh. Virgil, Æn. ii. and iii. Cicero de Amicitiâ. *History time.* Part of Xenophon's Hellenics. Florus from iii. 21 to iv. 11. History of Greece. (U. K. S.) Markham's France, from Philip of Valois. Detailed geography of Italy and Germany. *Scriptural instruction, &c.* Acts, in the Greek Testament. St. John, in the English Bible. Old Testament History.

MATHEMATICAL DIVISION. Decimals. Involution and evolution. Addition, subtraction, multiplication, and division of algebra. Binomial theorem. Euclid, Book i., Prop. 1 to 15.

FRENCH DIVISION. Hamel's Second Part, chiefly syntax of the pronouns. La Fontaine's Fables.

UPPER REMOVE.

CLASSICAL DIVISION. *Language time.* Sophocles' Philoct. Æschyl. Eumenid. Homer's Iliad, i., ii. Virgil Æn., iv., v. Parts of Horace, Odes i., ii., iii. Parts of Cicero's Epistles. *History time.* Parts of Arrian. Parts of Paterculus, Book ii. Sir J. Mackintosh's England. *Scriptural instruction.* St. John, in Greek Testament. Deuteronomy and Epistle of St. Peter. Selections from the Psalms.

MATHEMATICAL DIVISION. Equation of payments. Discount. Simple equations. Euclid, Book i., from 15 to end.

FRENCH DIVISION. Translation from English into French. La Fontaine's Fables.

LOWER FIFTH.

CLASSICAL DIVISION. *Language time.* Æschyl. Sept. Contra Thebas. Sophocles, Œd. Tyr. Homer's Iliad, iii., iv. Virgil's Æneid, vi., vii. Extracts from Cicero's Epistles. Parts of Horace. *History time.* Parts of Arrian. Hero-

dotus, iii., 1, 38, 61, 67, 88, 116. Livy, parts of ii. and iii. Hallam's Middle Ages. France, Spain, Greeks, and Saracens. Physical and political geography of all Europe. *Scriptural instruction.* St. John. Epistles to Timothy and Titus. Bible history, from 1 Kings to Nehemiah, inclusive.

MATHEMATICAL DIVISION. Exchange. Alligation. Simple equations with two unknown qualities, and problems. Euclid, Book iii.

FRENCH DIVISION. Syntax and idioms. A play of Molière, to construe, and then to turn from English into French.

FIFTH FORM.

CLASSICAL DIVISION. *Language time.* Æschyl. Agamemnon. Homer's Iliad, v., vi.; Odyssey, ix. Demosthenes' Leptines in Aphobum i. Virgil's Æn. viii. Parts of Horace. Cicero in Verrem. *History time.* Parts of Herodotus and Thucydides. Parts of Livy. Hallam's Middle Ages. State of society. *Scriptural instruction, &c.* Epistles to the Corinthians. Paley's Horæ Paulinæ.

MATHEMATICAL DIVISION. Quadratic equations. Trigonometry. Euclid, to the end of Book vi.

FRENCH DIVISION. Pensées de Pascal. Translations from the English into French.

SIXTH FORM.

CLASSICAL DIVISION. *Language time.* Various parts of Virgil and Homer. Some one or more of the Greek tragedies. One or more of the private orations of Demosthenes. Cicero against Verres. Parts of Aristotle's Ethics. *History time.* Parts of Thucydides and Arrian. Parts of Tacitus. Parts of Russell's Modern Europe. *Scriptural instruction, &c.* One of the prophets in the Septuagint version. Different parts of the New Testament.

MATHEMATICAL DIVISION. Euclid, iii., vi. Simple and quadratic equations. Plane trigonometry. Conic sections.

FRENCH DIVISION. Parts of Guizot's Histoire de la Révolution d'Angleterre, and Mignet's Histoire de la Révolut. Français.

A comparison of this course with that of one of the grammar schools still adhering closely to the old system, will serve to show how far it is in advance; I select an authorized account of the courses at Harrow for the comparison.*

THIRD FORM.

Evangelia. Ovid's Epistles. Selecta e profanis. Greek grammar. Exempla Minora. Two sets of Latin verses and one Exempla Minora, during each week, as exercises. Monita Christiana. Hartley's Geography. Scriptures read on Sundays.

* Quarterly Journal of Education, vol. iii. p. 4, &c. London.

FOURTH FORM.

Repetition of Ovid's Epistles. Ovid's Metamorphoses. Excerpta from Virgil and Horace. Turselini Hist. Cæsar and Monita Christiana.

Repetition of Greek grammar. Greek Testament. Poesis Græca. Two copies of Latin verses and one translation from the Praxis of Dr. Butler, per week, as exercises.

A map to be copied and shaded, as a weekly exercise in geography. St. Matthew's and St. Mark's gospels. Wake's Catechism, with Scripture proofs, for Sundays.

SHELL FORM.

Historia Romana. Cornelius Nepos. Virgil's Æneid. Horace's Odes, Epistles, or Satires. Latin theme. Latin lyrics. Latin hexameters or elegiacs. Greek Testament. Musa Græca. Xenophon's Anabasis. Retranslation of Xenophon into Greek. Homer's Iliad. Repetition of Greek and Latin verse. Geography. St. Luke's and St. John's gospels. Watts' Scripture History. Doddridge's Sermons on the Evidences of Christianity, for Sundays.

FIFTH FORM.

Historia Romana. Virgil's Æneid and Georgics, the latter in the way of lecture, and with repetition. Horace's Odes, construed, explained, and comments entered in common place book. Repetition of Horace's Odes. Horace's Epistles and Satires. Latin theme. Latin verse, hexameter or elegiac (thirty, the compulsory number per week). Latin lyrics. Musa Græca. Homer's Iliad. Thucydides. Demosthenes. Philosophia Græca. Greek plays, and lectures on the Metres and Greek theatre. Grecian history and chronology. Ancient geography. Modern geography. Lecture on literature.

Acts of the Apostles. Paley's Evidences. Watt's Scripture Geography, for Sundays.

SIXTH FORM.

Virgil's Æneid. Horace's Odes, Epistles, and Satires. Historia Romana. Latin themes. Written translations. Latin lyrics. Latin hexameter and pentameter verses.

Parts of the Gospels and Acts. Musa Græca. Homer's Iliad. Thucydides. Demosthenes. Philosophia Græca. Greek plays. Greek prose exercises and verses.

Greek history. Modern history. English essays.

Beausobre on the New Testament. General Scripture history. Euclid. Vulgar and decimal fractions. Logic.

New Testament. Newton on the Prophecies. Lectures on the Articles of the Church of England, with Scripture proofs, for Sundays.

Admitting that by the arrangements at Rugby the mathematical and French divisions will be, in general, imperfectly taught, which does not seem to be liable to a doubt in theory,

and which the fact is said to confirm, how vastly superior is its mere classical division to that which occupies the time of the Harrow student. In that division the ancient languages, leaving out of consideration the modern history, and reasoning upon the acquisition of these studies for themselves, are as fully taught, and with materials which appear to me more rational, connected, and better chosen than those of Harrow.* If no literature existed beyond that of Greece and Rome; if no discoveries in mathematics or physics, in art or nature; if no nations had, by the advance of civilization, come into greater relative importance than in the days of Rome's prosperity, the course of Harrow might be well adapted to train up British youths of the provinces in the learning of the capital. As it is, the exclusion of all, or nearly all, that characterises modern civilization, brings discredit upon the system, and the worst foes of the legitimate use of classical culture are those who profess to be its best friends. The success which the pupils of Rugby have had in the universities, the standard by which all the public schools in England are tried, proves conclusively that it has lost nothing on the score of classical instruction by introducing some modern improvements into its course. The success, in the same field, of the Edinburgh Academy, which has also adopted, and actually gone further in these improvements, shows that an efficient arrangement may carry out the modern courses without interrupting the progress of the ancient languages. When we come to consider the gymnasia of Germany, we shall have additional examples of the same kind, embracing a still further extension of modern branches, without injury to the classical departments. This grade of progress in England, and even in Scotland, has yet been too recent to afford the desired experience as to its results.

The masters at Rugby are at liberty to give private instruction in any branches not forming a part of the regular course, but in fact have few private pupils. The practice of giving private lessons of revision of the daily exercises, or of prepara-

* I subjoin in the Appendix, No. XII., the remarks understood to be from the pen of Dr. Arnold, on the Use and Method of the Study of the Ancient Languages.

tion for them, is not allowed here, while at Harrow each pupil is required to have a private tutor.

The stimulus of taking places in the class is used in all the forms below the sixth; the classes below the lower fifth taking places according to proficiency at each recitation. There is a general examination before the Christmas holidays, and the names of the pupils who distinguish themselves are printed. The students have the privilege of presenting themselves for examination on books which they have read out of school, and this reading counts in the determination of standing. The fifth and sixth forms are examined by the head master in classics once a month, and at the June examination of the fifth form they are rated according to the marks of the last half year. The sixth form is limited in number, and hence only those in some degree proficients in the fifth, enter it. A pupil who has not reached the fifth form at eighteen, or the sixth at nineteen, is generally allowed to withdraw. The members of the sixth form are not stimulated by daily comparison with each other, and indeed Dr. Arnold is understood to be very cautious in exciting the principle of ambition. There are, however, prizes, consisting of payments called "exhibitions," of sixty pounds (nearly three hundred dollars) a-year for seven years, which may be awarded to pupils entering and residing at either of the universities of Oxford or Cambridge. Of those who leave Rugby for the English universities, by far the greater number, perhaps nearly two to one, go to Oxford, indicating by this selection that they are conscious of full attainment in classical knowledge. The pupils remain ordinarily in the sixth form two years, their age at terminating the course being eighteen or nineteen, on the average.

The regular lessons of the school employ five hours and a-half per day on three days of the week, and four hours and a-half on three others, which are half-holidays. They are distributed as follows: from seven to eight, A. M., nine and a-quarter to eleven, two and a-quarter to five, P. M., on three days; and the same hours between seven and eleven, A. M., with from eleven, A. M. to one, P. M., on three other days.

The distribution of time for recreation seems to me better than that at Harrow, where the whole of Tuesday is a holiday, and Thursday and Saturday half-holidays.

*Physical education.* This branch, though not specially regulated in the English schools, is usually in an excellent condition. There is always a spacious play-ground or common attached to every public school of this grade, and the relish which pupils display for games requiring skill and strength, and giving exercise to the various parts of the body, is very great. I have already alluded to the common or play-ground at Rugby. The amusements are, in general, never interfered with, the pupils being without superintendence, an attempt at which would be resented as an infringement of privilege. In many private schools it has been thought better that the teachers should be present, and in some they even mingle with the pupils at play; but the relative position of the master and pupil in most of the public schools does not permit this mode of combining moral with physical education. The whole tone of mind of a pupil of an English public school is, in this respect, peculiar, and the effect, in reference to conduct, has its good and evil features. A spirit of independence is fostered, but frequently at the cost of neglect of moral principle.

### ST. DOMINGO-HOUSE SCHOOL, EVERTON, NEAR LIVERPOOL.

In visiting private establishments for education, my inquiries were necessarily limited by the disposition shown to furnish me with information. It frequently happened, however, that every thing was thrown open without reserve, and every endeavour shown to enable me to judge for myself of the results of the system. Such opportunities I enjoyed through the kindness of the heads of the private schools of which I am about to give a sketch.

Mr. Voelcker's institution is established in a large mansion, called the St. Domingo-house, in the village of Everton, near the city of Liverpool. The situation is elevated, the house convenient, and the grounds ample for the purposes of the establishment. It consists, in fact, of two schools in different

buildings, one a day-school, the other, of which I speak, a boarding-school. The institution is intended for the threefold purpose of preparing young men for the universities, for the army, navy, and engineering, and for trade. At a certain period the courses divide according to the future destination of the pupils.

The views of Mr. Voelcker in education are understood to coincide with those of many of the most intelligent of the disciples of Pestalozzi. His plans are very different from those of the grammar schools which have just been noticed, and, therefore, afford experience in reference to points not reached by them. These points are principally the following, the intercourse and relation between the teachers and pupils, and between the pupils themselves, both affecting the ground-work of moral education: the result of postponing the study of the ancient languages, and of preceding them by the study of modern languages; of introducing a knowledge of nature and art throughout the course; and of dispensing with emulation as a means of exciting to intellectual exertion.

*Moral education.* Besides the means of religious instruction commonly used for developing the moral sentiments, there is here a constant endeavour to promote the influence of the teacher, by cultivating friendly feelings and intercourse between him and his pupils. The younger classes have female superintendence. The elder ones are accompanied in their play, and superintended in their studies, by the younger assistant teachers. The principal and some of the teachers take their meals with the pupils, partaking at the same table of the same fare. Some of the assistant teachers, also, sleep in the rooms with the pupils, and thus, as in the German schools, exercise a powerful influence in reference to their moral education. Experience, here and elsewhere, has shown that this intercourse is compatible with a due maintenance of discipline, and that it tends materially to lessen the necessity for punishments. The principal makes, from time to time, a communication to parents, in which he states the progress and conduct of their children. The school is assembled at the close of the morning and after-

noon recitations, and a report made to the principal by each teacher. Private admonition is given, if required by the nature of the report, and frequent offences are followed by an appeal to the parents, and if this fails to produce the desired effect, or in the case of flagrant offences, by removal from the school. Corporal punishment is rarely resorted to.

*Intellectual education.* The pupils are divided into six classes, in general according to age. Each class contains from eight to thirteen or even fifteen pupils, under the charge of a teacher, who devotes himself to some particular branch or branches. The teaching is, therefore, individual, except in certain subjects, as drawing, natural philosophy, and chemistry, when two or three classes are united. The lessons are prepared under the direction, and, if necessary, with the assistance of the masters.

The following is a general statement of the studies of the different classes on which I shall remark in passing:

First Class. Age of the pupils from six to eight years. *Religion.* Duties to God, to parents and teachers, to fellow pupils. Views of man and nature, and of their author. Suitable verses from the Bible and hymns committed to memory. *Exercises of the perceptive faculties.* Properties of different natural and artificial bodies derived from induction, by the pupils. *Language.* Correct speech and pronunciation, connected with the foregoing exercises. Practical grammar. Reading. *Mental arithmetic.* Numeration and the ground rules taught with sensible objects. Examples in denominate, or concrete, numbers only. *Writing.* Letters formed. Significant words, from the foregoing exercises, written. *Form and drawing.* Tracing of straight and curved lines, variously directed and combined. Simple objects delineated. The number of hours of instruction is about five per day.

The pupils of this class being quite young, their power of continued attention is small, and hence the subjects of recitation are frequently varied, and the hours are divided by intervals of exercise. I had an opportunity of verifying the good effects of this judicious arrangement. The variety of subject which pleases the child of this age, induces due mental effort, and contributes to lead to a habit of attention, which is to be cultivated by gradual steps in the after classes. I saw no experience, any where, which indicated that to render instruction disagree-

able, to overfatigue the mind of the child, and his body, were successful methods of developing either, or to support the idea that the education of young children may be marred by rendering their instruction too agreeable.

Second Class. Eight to ten years of age. *Religion.* Bible history. *Language.* English grammar. Historical compositions. *Geography.* General ideas of physical geography. *History.* Stories from general history, and from the History of England. *Arithmetic.* Mental arithmetic, the ground rules, with concrete, abstract, and compound numbers. Fractions. Use of figures, and application to foregoing rules. *Forms.* Ideas of geometrical figures. *Natural History.* Animals. *Writing.* Sentences relating to the subjects of study. *Drawing.* Chiefly from real objects.

Third Class. Ten to twelve years of age. *Religion.* Historical parts of the Bible, chiefly from the New Testament. *Language.* 1. English composition, historical and descriptive; correct reading. 2. French. 3. German. Etymology, and forms of the simple sentences, acquisition of words and phrases. *Geography.* Europe and Great Britain more in detail. *History.* Connected English history. *Arithmetic.* Decimals, square root, proportions, fellowship, interest, &c. *Geometry.* Plane figures. *Natural Philosophy.* Inductive exercises. General properties of bodies. Mechanics. *Writing and Drawing*, as in the second class.

The peculiarity before mentioned, of beginning with the foreign modern languages, instead of the ancient, is here introduced. The English is supposed to be the language of comparison, and the French and German are taught early, for the sake of accurate pronunciation, and of acquiring a facility in their use in conversation. I have before offered some remarks on this subject in speaking of the Hill-street Institution, in Edinburgh. As many of the teachers in this school are foreigners, who speak English with difficulty, the pupils are induced the more readily to converse with them in their own language.

Fourth Class. Twelve to fourteen years of age. *Religion.* Reading the Scriptures. General views of the Christian religion. *Language.* 1. English composition. 2. French and German, continued. Committing to memory passages of prose and verse. 3. Latin begun. Etymology and simple parts of syntax. Versions from English into Latin. Cornelius Nepos. *Geography.* General political and statistical geography. *History.* Ancient history; history of the middle ages. *Arithmetic and algebra.* Cube root. Proportions and logarithms. Algebra, to quadratic equations, inclusive. *Geometry.* Solids. Trigono-

metry. *Natural Philosophy.* Elements of Astronomy. Mathematical and physical geography. *Drawing.* From models. Copying drawings of landscapes and the human figure.

In the French, the black-board is used by the pupils in writing from dictation, or in turning English into French. Another useful method is the preparation of written exercises from a book, in which but few of the French words are given below the English. These exercises are afterwards translated, viva voce, into English, and then the French is read correctly from the book. In German, pieces committed to memory are written out to acquire the spelling.

The natural philosophy lessons are given in conversational lectures, interspersed with questions, to ascertain the state of the pupil's knowledge. The class take notes, which are written out subsequently in full, and presented at the next recitation for correction.

In the drawing class a very useful exercise is introduced, consisting in copying drawings upon a different scale from the original. Latin is begun in this class.

FIFTH CLASS. Fourteen to sixteen years of age. *Religion.* Reading the Scriptures. Morals of Christianity compared with those of paganism. *Language.* 1. English composition and literature. 2. French and German exercises and composition. Committing selected pieces to memory. 3. Latin. Cornelius Nepos, finished. Ovid. *History.* Modern history. *Natural Philosophy.* Elements of hydrostatics, &c. Heat, &c. Optics. Electricity. Galvanism and magnetism. *Chemistry.*

The branches just enumerated are common to all divisions of the class, but here a separation takes place, according to the destination of the pupils in after life.

For the first division, or those preparing for the university, the following studies are added:

*Latin.* Translations from English into Latin. Cicero and Livy read. *Greek.* Etymological parts of the grammar. Greek delectus. Xenophon.

For the second division, intended for the military or naval schools, the following courses are added:

Spherical trigonometry. Land surveying. Navigation. Mechanics. Technology and geometrical drawing.

For the third division, or those preparing for commerce:

Practical arithmetic. Book-keeping. History and geography of commerce, and a knowledge of the chief articles of trade and commerce.

The chemistry is taught according to the method already described as used by Dr. D. B. Reid, of Edinburgh. It is difficult to introduce a similar system in regard to mechanics, but it has been done, partially, as already stated, at the La Martinière school of Lyons.

The instruction in regard to the articles of trade and commerce is accompanied by a kind of practical exercise in the system of banking, in the different operations of trade, in the mode of keeping books, &c., the members of the class being converted into an imaginary community, carrying on supposed operations of this kind under the direction of the teacher. To conduct these exercises properly, requires considerable skill, as well as knowledge, but I was much pleased to see that sound instruction was actually communicated, and the details of business, with their general theory, were thus impressed in a way not easily to be forgotten.

Sixth Class. Sixteen to eighteen years of age. This class is only intended for those preparing for the university.

*Language.* English, French and German composition. Extracts from classical authors. Latin prosody and versification. Translations into Greek, continued. Xenophon, Plato, Herodotus, Thucydides, Homer, Euripides and Æschylus. *Geography.* Ancient Geography. *Mental Philosophy. Mathematics.* First six books of Euclid, in Latin.

The propriety of postponing Latin until the age of thirteen, the average of the fourth class, is a question which experience alone can determine positively. In the case of those who are to go to the universities, where their success depends in a great measure upon their being thoroughly trained classical scholars, I must express my conviction that the period between the fourth class and the end of the sixth is not sufficient, with the many other subjects to be attended to, to enable youths of ordinary abilities to compete successfully with those who begin earlier, and devote more of their time to the classics. In the present state of secondary instruction in England, the classics must be

the prominent feature of every school which prepares pupils for the universities. That there is, also, ample time to devote to other studies, I think experience has shown, and I believe, further, that the mental training derived from the combined system is superior to that from the exclusively classical, but not that modern languages and science can be made the basis, and the ancient languages supplementary, consistently with such an acquisition of the latter as to enable the student to compete for stations depending upon them with those who have been drilled in them from early youth. On the other hand, I must express, with equal freedom, my opinion that, as a preparation for engineering, the army, navy, commerce, or trade, or for the general purposes of life, there cannot be a reasonable doubt whether a student should devote his youth to the ancient languages, as at Harrow, or to the more general course of study, as in the school under consideration. The sources of usefulness and enjoyment opened by the latter course would, in my opinion, far surpass those presented by the former.

The principle of emulation is not admitted, by Mr. Voelcker, as one upon which the training of youth should depend, and, accordingly, there is neither taking of places in the recitations, nor giving of rank at examinations. It would require a more minute inspection of the system than I was able to give it, to come to a definitive conclusion as to the results of excluding emulation, but I could not avoid the impression that the classes would, in many cases, have been more lively, had emulation been employed. While it may be freely admitted, in a moral point of view, that a desire of distinction is not among the highest motives to exertion, I question whether we are yet prepared to dispense with it in our schools.

*Physical education.* There is a gymnasium, in which regular exercises from the German system are practiced. At the time of my visit this was deserted for the play-ground in front of the house, and the exercises were abandoned for those games to which the English youth are so much attached.

The *order of the day* in the school is as follows:

The pupils rise at half past six in autumn, the hour varying with the season, assemble to prayers at seven, study in classes until eight, breakfast and recite until nine, are in school until twelve, and play until three in summer and half past three in winter, with an interval at two, or half past one, for dinner; in school for three hours until six or half past six; take tea in winter at half past six, in summer at seven, and study until eight; at prayers and to bed at nine.

### BRUCE CASTLE SCHOOL, TOTTENHAM, NEAR LONDON.

This is a private school near the village of Tottenham, ten miles from London, conducted by Messrs. Edwin and Arthur Hill, and established by their father. The principles and practice in their establishment are the result of the study and experience of the able teachers through whose hands it has successively passed. The object of education is thus stated, in the account of the institution.*

"The object which we have kept in view, in forming our system of government and instruction, is to render our pupils, in the highest degree, virtuous and intelligent men; and at the same time so to modify the education of each, as to enable him to pass with honour, success, and happiness, through that path of life into which he will probably be thrown." To effect this it is deemed essential to study the individual pupil, and when his peculiar talent and disposition are discovered, to direct him in the path which they point out as that which he may pursue most successfully, and the parent is advised accordingly. As there are, however, faculties to be cultivated essential to every man in a laudable career, so the ground-work is general, while, after a certain period, the education is varied according to the destination in life.

The maxims laid down in relation to the exercise of the faculties of the mind are as follows:—The reflecting and inventive

* Sketch of the System of Education, mental and intellectual, in practice at the schools of Bruce Castle, Tottenham, and Hazlewood, near Birmingham. London, 1833.

powers should be as much as possible exercised, by throwing the pupil upon his own resources in the course of the acquisition of knowledge. A distinction, however, should be made in the amount and character of the assistance rendered to him between those branches which may be acquired by patient study and in progressive steps, and those which are in a great degree arbitrary, as, for example, between mathematics and language. The assistance which is afforded must be valued in order to be beneficial, and must be proportioned, therefore, to the pupil's own powers, as well as to the nature of his studies. The understanding should be accustomed to examine for itself every idea presented to it, and to be certain that it is fully grasped. Concentration of the mind mainly upon one subject is essential to success in its attainment, and the studies, therefore, should be only so far diversified as to give the repose necessary to renewed vigour. This concentration cannot, of course, be carried so far in youth as in manhood. Order is essential to the efficiency of both mental and bodily labour. Desultory efforts are of little value, when compared with systematic exertion; a principle which, when a number of individuals are concerned, can only be carried out by punctuality on the part of each.

In regard to the kind of knowledge to be communicated, the following maxims are observed:—The degree of attention paid to each study should be proportioned to its importance to the welfare and happiness of society at large, and of the individual pupil. While, therefore, all the studies which form the basis of a general mental development are pursued, each pupil should bestow special attention upon those best calculated to cultivate his peculiar powers. The formation of good habits of mind, and the development of the mental, as well as of the bodily strength, is more to be regarded than the early acquirement of positive knowledge. As far as possible, however, that knowledge should be preferred, as the means of mental culture, which will fit the pupils for their duties in after life.

In regard to the mode of communicating knowledge, the arrangement of the subjects should be such as to admit of the most

ready application of their principles by the pupils; and hence the value of some branches, as introductory to others, should not be lost sight of. No new step should be taken without the certainty that the ground already passed over has been secured, and constant repetition must be employed to make sure that what has been acquired has not been lost. A succession of definite objects should be presented to the pupil, and the time necessary, with moderate exertion, to their acquisition duly assessed.

The principles of moral education or discipline, as laid down by the instructors, are as follows:—"In arranging the motives which we hold out to the pupils, for the acquirement of knowledge, of good habits, and of virtuous feelings, we place highest in the scale that which arises from the expectation of the benefits which such acquirements will confer on the holder himself, and the power they will give him of benefiting others. Next to this motive we place love of employment, then hope of artificial reward, and, lastly, fear of punishment." Artificial rewards and punishments are considered as necessary evils, and hence their use is limited to the smallest possible amount. Mild punishments, inflicted with certainty, are more efficacious than severe ones, from which there is a chance of escape. All unnecessary restraints are to be avoided. If possible, offences should be prevented rather than punished.

These principles, as far as they cover the ground of education, seem to me to be entitled to a full assent, and it will be interesting to trace some of the modes of their application; and, first, to the moral education and government of the pupils.

Regularity is insured by aiming at exact punctuality. Each exercise of the school has its appointed time, and rigid conformity to this is required, without which time is lost both to the tardy pupil himself, and, through his negligence, to others. It is not uncommon in schools to allow deviation from exactness in the ringing of the bell, or other signals for exercise, but the effect is fatal to habits of punctuality. It appears to me, from observation, that the happiest results are produced by this rule, which requires the pupil to be in a particular place at a pre-

cise second, and that it is greatly preferable to that which allows a latitude of several minutes.

An economy of time is produced by this regulation, and also by making the acquisition of lessons "piece-work," instead of "day-work." A certain portion of time is allotted, within which the pupil may, by proper exertion, master his lesson; if he is specially active, and has done his work within this time, the remainder of it is at his own disposal. It is left to his judgment to decide when the lesson is acquired, and he may leave his desk; but he is responsible, subsequently, for his decision. This regulation is of course only applied after the judgment necessary to its execution has been formed.

Good conduct is encouraged by various artificial methods, besides the natural ones of approbation and censure, and the fostering of kindly feelings of the pupils toward the teachers and towards each other. One of these is the award of school *marks*, according to a graduated scale, for the performance of duty, or extra work, and their forfeiture for the infraction of rules. The boys are divided into circles of ten, over which an elder pupil, selected by the school, presides, under the title of guardian. It is the duty of this guardian to assist the members of his circle in all cases of difficulty, as a friend and adviser. He also collects the fines due from the members of his circle. There are rewards and privileges depending upon the aggregate conduct of the members of a circle, so that each one may be considered as interested in the good conduct of all, and, therefore, in preventing infractions of laws. A plan somewhat similar to this has also been tried at Mr. Fellenberg's institution in Switzerland. In the case of certain boys, the rules relating to rewards and punishments have, at different times, been suspended with success, such boys being bound in honour to enter their conduct in a journal provided for the purpose. For the promotion of good conduct, an analytical table is kept, which displays, under appropriate and well subdivided heads, the opinion of each teacher in regard to every pupil. On a change of conduct, there is a corresponding change of the register. If the standing upon this roll is good, certain favours

are extended to the pupil, such as the use of a small garden, an excursion of a day or more, every half year, and the use of a separate small room for a study. A high place in the conduct-roll requires not merely the absence of infractions of rules, but the manifestation of active good qualities; absolute merit, not comparative, is rewarded by testimonials, and the name of a pupil who is highly distinguished is inscribed on a tablet of honour. In extreme cases, temporary or entire separation of a pupil from his fellows is resorted to as a punishment, but in no case is public shame or corporal punishment allowed. In general, the intention of this method is to dispense, as far as possible, with punishments. Although the result of the regulations of this school appeared to me, in the main, satisfactory, yet parts of them did not strike me favourably, as, for example, the admission of the pupil to a share in the enactment of school-laws and the fixing of penalties, to which there are objections, founded on the loss of time, and the distraction to which it must give rise. Well trained pupils will be easily satisfied of the justice of mild laws emanating from the master, though they have had no voice in the enactment.

In regard to intellectual education, it is given by instruction in the English branches, French, Latin, Greek, the elements of natural science and technology, arithmetic, and other branches of mathematics, and is upon a liberal scale. Religious instruction and the physical education of the pupils are carefully attended to.

I propose to notice some of the peculiarities of the instruction in these branches, and of arrangements connected with the general subject of intellectual labour. French is taught as nearly as possible in the way in which a child might be supposed to learn its mother tongue. Phrases of common use in the school-room are first taught, and the pronunciation of them made distinct and accurate. After this, the language of the class-room is French, and if a pupil is unable to express himself, he is permitted to ask of the teachers the required phrase, or as much of it as he cannot make out without aid. About twenty lessons, of an hour each, of familiar phrases are given,

and these are repeated simultaneously by the class. After this and other preliminary exercises, the pupil proceeds to his first reading-book, a translation of Miss Edgeworth's "Frank," which has previously been read, explained, transcribed, and committed to memory in the English course. A paragraph or more is read, great care being taken with the pronunciation; it is translated, transcribed, and written from dictation, rendered from French into English, and vice versa, in writing. When this process has been perfectly performed, it is next committed to memory. Easy sentences are then given to render from English into French. The class thus proceeds through this book and the accompanying manuscript exercises. The rules of grammar are introduced from time to time, and are drawn from the pupil's own experience. He is now prepared to feel the convenience of learning the conjugations systematically. A second reading-book follows, and with it systematic grammar is introduced.

While the instruction in French is thus adapted to the purpose for which it is taught, the ancient languages are pursued as in more exclusively classical schools, except that, perhaps, the study of grammar is more gradually introduced. Great care is taken that the exact meaning, as well as the language, of the authors studied is understood. The written exercises in language are also considered as exercises in penmanship, being subjected to the scrutiny of the writing as well as of the classical master. Before entering the Latin class, therefore, a boy must have made a certain progress in his English education. The Latin is begun at between eight and nine years of age by those who enter young, and the experience of this school has been, that boys beginning with the preparation, and at the age just mentioned, are better Latin scholars at eleven or twelve than those who begin earlier, and with a less complete preparation. Greek is commenced when the pupil can read Cæsar. The number of boys in the several sections is, in this department, not suffered to exceed seven.

Geography is taught nearly upon the plan described in speaking of the burgher school of Halle, in Prussia. When some

progress has been made in the study, imaginary voyages and journies are made, and information is given in relation to the places visited. An idea of the dimensions of the earth is derived from comparing upon a globe its circumference with the longest actual journey which has been performed by the pupil. The earth is next considered as a part of the solar system.

A course of *private reading* is marked out for the pupils, which they are encouraged to follow. The time required for an attentive perusal of each work is estimated, and a number of *marks* proportionate to this time may be obtained, provided the pupil passes a satisfactory examination upon its contents. These books are duly arranged in the school library, to which the pupils have access under certain regulations. The course consists of works calculated "gradually to impart a strong taste for private reading—to lead a boy, by easy steps, from the familiar story-books of children to the standard works of science and literature,—to store the mind of the pupil with the historical facts before exposing him to the risk of false impressions from the mixture of history and fiction—to connect the study of biography with that of the corresponding portions of history—and where authorities disagree in their views of important events, to place the works of the different authors as nearly as convenient in juxtaposition."* This arrangement has been attended with the best effects.

To carry out the principle, that clear and definite objects of attainment should always be presented to a pupil during his whole course, schedules of the studies are hung up, and he is made aware that he cannot proceed to a higher division without having passed a satisfactory examination upon the subjects of that in which he is. In courses depending upon principles, as arithmetic, &c., he must be able to correct his own errrors, and in such as give mechanical facility, as drawing and writing, where exact comparison is practicable, he must come up to a certain average standard.

It must be remembered by those who are disposed to consi-

* Sketch of the System, &c., p. 15.

der what are called innovations in education as mere scheming without practical results, that the plans which are spoken of as in operation in this school have stood the test of a long experience, and are in no wise liable to the objections of mere theoretical conclusions. The school where they have been tried continues to flourish, and these results speak for themselves, to every one who will take pains to examine into them.

## CHAPTER XI.

### SECONDARY INSTRUCTION IN FRANCE.

It will facilitate the understanding of the notice which I am about to give of secondary instruction in France, to make a few preliminary remarks upon the general system, of which it is a part, and of the highest instruction to which it leads.

The exclusive charge of the entire system of education is vested in a body styled "the University of France,"* presided over by a grand master, who is the minister of public instruction, and president of a council of six, to which the regulation and administration of the whole are committed. Each councillor has special charge over one or more divisions of public instruction, and in the offices connected with the council the details of business are transacted. Second to this council are the inspectors-general of the university, who are required to examine the institutions of every grade, and to report upon them to the council.

The kingdom is arranged, according to its political divisions, into academies, each academy embracing one or more Departments. The presiding officer of each academy is the rector, who is appointed by the grand master of the university, to serve for five years; the minister of public instruction being, ex officio, rector of the Academy of Paris, the active duties of that post are performed by a substitute. The rector is assisted by two inspectors and a council, who have the same duties within the bounds of the academy as the inspectors-general and council of the university have in the kingdom. The academy

* Laws of 1806. Code Universitaire, 1835. A very excellent account of the University of France is given by our countryman, the Rev. Robert Baird, clergyman at Paris, in the American Quarterly Register for August, 1836.

includes, besides this executive and superintending body, the teaching corps, or faculties, viz.—the faculty of letters, of science, of medicine, of law, and of theology, all of which, however, do not actually exist in every academy; in some, indeed, there is no faculty organization. These faculties consist of a variable number of professors, one of whom is dean, and a committee of whom examine candidates for degrees.

The two degrees which may be taken at the close of the career of secondary instruction, without study in the faculties themselves, and which are introductory to the others, are those of bachelor of letters (bachelier-ès-lettres) and of bachelor of sciences (bachelier-ès-sciences). The preparation necessary for these degrees may be made at home, as well as in one of the public or private establishments for secondary instruction; the examination is, in a great measure, the test according to which they are bestowed, though, in cases where the testimonials of conduct and proficiency are strong, the examination has, of course, less weight than in others. As the course of secondary instruction hinges, in a measure, upon the qualifications for those degrees, it is proper to introduce them here.

To be admitted to an examination for the degree of bachelor of letters, the candidate must be at least sixteen years of age. He must prove, by a certificate, that he has studied for one year, at least, a course of mental and moral philosophy, and for the preceding year, a course of rhetoric, in an establishment connected with the university; or that he has been similarly instructed in the house of his father, brother, or uncle; or that he has attended the course of philosophy for at least a year, in a faculty of letters, and has, besides, followed the lectures of other departments. In the last mentioned case he must produce a certificate of regular attendance from the dean of the faculty.

The subjects of examination are divided into three classes, Latin, Greek, and rhetoric; history and geography; philosophy and the elements of mathematics and physics. The questions on these several subjects are arranged beforehand, in divisions

of three each, and the candidate draws, by lot, one of these divisions. He is required, also, to give a written exercise, consisting of a translation of Latin phrases.

The Greek examination may take place upon selections from Lucian, Xenophon, Excerptæ e Scriptoribus Græcis, Greek Chrestomathy, the Thoughts of Plato, the Apology of Socrates, Plutarch, Æschines, Demosthenes, Sophocles, Euripides, and Homer.

The Latin, upon selections from Sallust, Livy, Tacitus, Quintus Curtius, Cicero, Virgil, and Horace. Rhetoric is considered under the heads of invention, arrangement, and elocution.

The other subjects are as follows: History, divided into ancient history and Roman history, history of the middle ages, and modern history, to include the seven years' war.

Geography, including a general description of the earth, modern geography, and especially that of France.

Philosophy, divided into psychology, logic, morals, natural theology, and the history of philosophy.

Elements of mathematics, namely, arithmetic, including proportions and vulgar and decimal fractions, partnership, and interest; algebra, including equations of the first degree, square and cube root, and proportions; the most essential propositions of plane and solid geometry.

The elements of physics include ideas of the laws of gravitation, of heat, electricity, magnetism, &c.

The first principles of chemistry.

A competent knowledge of these subjects, it will hereafter be seen, may be obtained by a collegian without passing through all the classes. A rigorous examination upon such a course might be considered quite sufficient for this degree, but it is possible that, by the aid of manuals ingeniously contrived to give the minimum of information, the student may prepare himself superficially. After all, however, this evil is not so great to any as to the individual himself, and among the crowds who press forward for these degrees, the university can lose but little in reputation by such cases.

To become a candidate for the degree of bachelor of sciences, the applicant must produce his diploma of bachelor of letters. If he intends to devote himself to giving instruction in philosophy merely, he is not required to be examined on chemistry and natural history, but the diploma has this fact

recorded upon it. If he applies for the baccalaureate in mathematical science, he is examined on the following subjects:

"1st. Arithmetic, geometry, plane trigonometry, spherical trigonometry, algebra, including the binomial theorem and the resolution of numerical equations, the application of algebra to geometry, and the elements of statics.

"2d. The elements of physical science required of the candidate for the baccalaureate of physical science."*

This examination is required to last at least one hour.

The candidate for the degree of bachelor of physical science is examined—

"1st. On arithmetic, elementary geometry, algebra, including problems depending upon simple equations with one or several unknown quantities; on simple machines and the part of the elements of statics referring to them.

"2d. The elements of physics, chemistry, and natural history, according to the following programme."*

The programme referred to includes, in physics, the general properties of bodies, gravity, hydrostatics and hydrodynamics, heat, electricity and galvanism, magnetism, electro-magnetism, molecular action, acoustics, optics, and meteorology. In chemistry, the general principles, nomenclature, some of the simple non-metallic substances and their compounds, metals, alloys, oxides, and salts. General questions on zoology, botany, mineralogy, and geology.

This examination must last not less than three-quarters of an hour.

The mathematical course for the last named degree, excepting the part relating to machines and statics, is taught in the first year of philosophy in the royal colleges, as will be seen hereafter.

As no one can matriculate in any faculty of an academy without having taken the diploma of bachelor of letters, and the career of medicine requires also that of sciences, the preparation for these degrees forms a definite object for attainment by the course of secondary instruction.

The establishments for public secondary instruction in France, are the royal and communal colleges (collèges royaux et communaux), and the normal school (école normale), and for private instruction the institutions (institutions) and boarding-schools (pensions). There are, beside, a few private colleges,

* Decree of the Royal Council of Public Instruction, Feb. 3, 1837.

the remains of ancient foundations. The law defines the royal colleges to be establishments in which the following branches are taught:—the languages, history, rhetoric, logic, elements of mathematics, and physical science; the communal colleges to be those where instruction is given in the elements of the ancient languages, and the first principles of history and science.* The first mentioned private establishment is defined by the law to be one resembling the colleges, and the second was originally designed for a lower grade of attainment.

The pupils of the private establishments are now required by law to attend the recitations of the colleges, but as they may enter a higher class of a college by examination on the studies of the previous classes, and even procure a certificate of proficiency in all the courses by the same means, the law may be considered as not rigidly enforced, although, as a general rule, the attendance is customary.

The royal colleges are established by, and in part supported from, funds of the state and of the university. In turn, they contribute to the treasury of the university, of which they form component parts. The communal colleges are established, in like manner, in part at the expense of the communes. There are upwards of forty royal colleges in France, of which five are in Paris; besides these, there are two private colleges in the same city. The number of communal colleges in the kingdom is about two hundred and thirty.† "Institutions" and boarding-schools are licensed by the university, and pay for this a yearly sum into its treasury. As this is less in the case of the latter than of the former establishment, and as the plan of education for them is not specifically laid down, it acts as a bounty toward the increase of the boarding-schools. The head of the former must have, according to law, at least the degree of bachelor in the faculties of letters and sciences, while the

* Decree of 17th March, 1808, Art. 5, quoted in the Code Universitaire, p. 5, 1835.

† Exposé des motifs et projet de loi sur l'instruction secondaire presentés par M. Guizot, ministre de l'instruction publique, dans la séance de lundi, 1er Fevrier, 1836.

master of the boarding school is required to have only that of bachelor of letters.

These schools are wholly subsidiary to the public ones, and cannot be considered as stimulating them in any degree by a wholesome competition. M. Guizot has pointed out the defects of the system as depending upon the following causes—first, that a special and discretionary authority, available only for one place, is necessary to open such an establishment; second, that the pupils must be sent to the colleges; and third, that the grand master of the university has the right, after an academical inquest, to close them.* There are more than ninety "institutions," and six hundred and sixty boarding-schools in France.

Since the organization of the imperial university, and connexion of the lyceums (now royal colleges) with it, in 1806, the general outline of public secondary instruction in France has not varied materially. Isolated instances of modification, such as the establishment of courses for students of arts and trades, connected with the royal college of Nanci, cannot be considered as contravening this remark. A growing necessity appears, however, to have been felt for a secondary education, bearing the same relation to non-professional occupations as the present secondary bears to the professions. Accordingly, such a system was proposed by M. Guizot in 1836.

He lays down the principle, that it is an abuse of classical studies to extend them so far as to create an undue tendency towards the learned professions, or to prevent the timely acquisition of the habits of mind and special knowledge required for non-professional occupations. He considers, therefore, that at a certain period, instruction should assume a special character, being directed according to the future vocation of the recipient of it. This division of courses he is of opinion should take place, either between the elementary or grammar classes of the royal colleges and the higher classes, or between the two lower of the literary classes. The very important modification thus proposed was accompanied by another, throwing open secondary

* Almanac de l'Université Royale de France, 1836.

instruction to private competition under suitable regulations, as to the qualifications of the teachers, and repealing the law requiring the pupils of private establishments to attend the royal colleges. The project embodying these changes was reported, with some alterations, to the Chamber of Deputies, in June, 1836, but has not, I believe, been yet acted on. Certainly no changes of the kind contemplated had been made previous to my visit to the colleges of Paris in 1837.*

While the general outline has thus remained the same, great changes have been made in the filling up, the details of instruction having been much varied in reference both to matter and method. Instruction in the physical and mathematical sciences, to prepare for the courses and first degrees of the faculty of science, having been necessarily admitted, the manner in which these should be combined with the classical studies, appears to have been subject to much variety of legislation by the council of the university. At one time, science and letters were studied conjointly, then they were separated, and science, except in its very elements, was postponed to the close of the course; they are at this time again united, but with arrangements considered to be very imperfect. If I may judge by the examinations for the baccalaureate of sciences, which I attended, this opinion, which came to me from more than one source, is quite correct. The changes of position which the course of natural history has undergone, are very remarkable. In 1802 it was directed that the elements of natural history should be taught in the lowest class of mathematics, corresponding to the next to the lowest in the classics. In 1814 this subject formed a part of the courses of the third and second classes. In 1830 it still continued part of the course of the third class, and in 1832 was transferred to the sixth or lower grammar class, where it is even now considered a surplus study. The modern languages have been introduced as voluntary branches with the usual result, where the honours of the institution are reserved

* I am indebted for letters of admission to the colleges of Paris to the Minister of Public Instruction, M. Salvandy.

for the regular courses. While the studies in science have not afforded the results which similar ones in other schools of France are daily producing, the lessons of philosophy have succeeded in rivalling, in the attention of the students, those of the languages, and now constitute a striking portion of the college course.

In describing the details of this system, I shall confine my remarks to the royal colleges, as the institutions by which the secondary instruction of France must be judged. It will be convenient to consider these institutions under the heads of, 1st, their government and the admission of pupils; 2d, their discipline; 3d, their courses of instruction; 4th, the arrangements for domestic economy.

*Government.* The royal colleges are superintended by an officer, called a provisor (proviseur), assisted by a censor (censeur). These officers must be at least licentiates in the faculties of letters or of sciences. The provisor has the general direction of the college. All the other officers are subordinate to him, and he has the appointment of some of them. It is his duty to visit frequently the infirmary, refectory, study-halls, dormitories, and other parts of the establishment. Accompanied by the censor, he is present, from time to time, at the lessons of the professors. If he observe negligence on the part of any officer, he communicates with him through the censor. Every evening he receives from the latter the class lists, containing the remarks of the professors during the day, and every morning has such students as require admonition summoned before him. On Sunday he attends, with the censor, a meeting of the classes, at which the remarks of the week are recapitulated. Once a month he meets the censor, chaplain, and professors, to discuss the affairs of the college. Every quarter, at least, he communicates with parents in regard to the health, progress, and conduct of their sons. Twice a year he reports to the council of his academy a detailed list of the pupils, and gives an account of the state of the college.

The censor is the immediate superintendent of instruction and discipline, and has charge of the library. He superintends

in person the rising and going to bed of the pupils, their going to and coming from the classes and meals, their walks, and their reception-room. He furnishes the class-lists for the day, and their recapitulation for the week, to the provisor. He replaces the provisor, in case of the absence or sickness of the latter. In point of fact, when the provisor is a man of energy, the office of censor is not of very great importance, but when not so, and the censor has the requisite character, he is likely to be the real provisor.

The chaplain (aumonier) holds the same rank as the censor. He is nominated by the provisor, and appointed by the rector of the academy, with the advice of the bishop of the diocese. He has charge of the religious instruction of the Roman Catholic pupils, and of the religious services on Sunday. In the college of Louis-le-Grand, at Paris, and in some establishments out of the capital, there is, besides, a chaplain for the Protestant students.

The professors, whose branches will be stated hereafter, are chosen from among the adjuncts (agrégés). Each one has charge of a division of a class, which should not, by law, exceed twenty-five in number. In case of an excess, the pupils should be so distributed between the professor and his adjunct, that the two divisions may, as nearly as possible, contain pupils of equal capacity, so as to enter into direct competition. The professors make both daily and weekly reports, in relation to the pupils, to the censor. Besides the professors, there are teachers of the modern languages, of writing, arithmetic, drawing, dancing, and fencing. The first four named branches are taught at the expense of the college.

The adjuncts (agrégés) are appointed after a competition, which may take place in one or more of the following five divisions, namely, philosophy, the sciences, the higher classes of letters, history and geography, and the grammar classes. The competitors must have passed through the normal school, or have been for two years directors of studies in a royal college, or teachers in a communal college, or have done the duties of adjunct in a royal college, for the same time, or

have served three years continuously as repeaters of lessons (répétiteurs) in the institutions or boarding-schools of the same academy. This term of service is reduced to one year for those who have the degree of doctor of sciences or letters, and for the pupils of the polytechnic school admitted to the public service. The competitors must also have certain degrees, viz: for the first named competition, those of licentiate of letters and bachelor of sciences; for the second, those of licentiate of the mathematical and physical sciences; for the third and fourth, that of licentiate of letters; and for the fifth, that of bachelor of letters. The judges are named by the grand master of the university, on the nomination of the rector of the academy.

There are three kinds of competition (concours), by written exercises, by an argumentation or thesis, and by a lesson. The second trial lasts, at most, three hours. The third, an hour, during the first part of which the competitor lectures, and during the second, questions one of the others on the subject of the lecture. The competitors in philosophy compose two disputations in French, one on a philosophical question, the other on a part of the history of philosophy. A thesis is sustained upon similar subjects as the second part of the competition. The competition in mathematics and physics consists, for the first trial, of an essay on two subjects, one in each of these branches, or in chemistry, as a substitute for physics; for the second, in questioning and answering questions on the subjects of examination for the grades of licentiate of mathematical science, and of licentiate of physical science. That in the higher classes of letters consists, for the first trial, in composing a Latin dissertation on some subject of ancient or modern literature, a dissertation, in French, on some subject of philosophy, a piece of Latin poetry, and a translation of Greek into French; for the second, in translating, at sight, passages selected from a Greek or Latin author, and in answering any question of other competitors on the subject, or growing out of it, and asking them questions in return. The competition in history and geography requires no special description. For the grammar class the competitor must, on his first trial, translate selected pieces from

Latin into French, and vice versa, and from Greek into French, and vice versa, and compose Latin verses; for his second trial he must translate, at sight, a passage from a Greek, and another from a Latin author, into French, and stand an examination upon it by the other competitors, or by the judges.

There are several adjuncts attached to every college, who supply the places of absent professors, and who take divisions of the classes for regular instruction. When not thus attached, so that their stipend is furnished by a college, they are entitled to a small payment from the university. In the college of Louis-le-Grand there are no less than twenty adjuncts, besides the officers, professors, and directors of study. There are, in the same institution, upwards of one thousand pupils of different classes, more than five hundred being boarders.

This arrangement, by which a number of young men are connected with public instruction at their entrance into life, and secured the means of devoting themselves to teaching, is one of the most, if not the most, important provision of all those which regulate the university of France. The competition prevents, in general, the connexion of those who are deficient in capacity to learn and to teach, and the supply of vacancies among the teachers by young men thus trained has inestimable advantages.

The officers who superintend the pupils when not in the class-rooms are called directors of study (maîtres d'études). They must be at least of the grade of bachelor of letters. There is one of them to about twenty-five students. This officer eats with the students, sleeps in a room adjacent to their dormitories, superintends them in their walks, at going to and from the recitation-rooms, and when in their dormitories, assists them in the preparation of their lessons, and attends them in the writing, dancing, music, and fencing exercises. After hearing the lessons of the students, he reports to the professor his opinion of the preparation of each, and to the censor their conduct and progress. The reports to the censor are made daily, and an abstract is given to him at the close of the week. To assist in the discipline, the pupils are divided into small sec-

tions, over which the director appoints one as the head, who is responsible for the good order of his fellows. These directors are thus not mere superintendents of the play hours, as in some of the institutions already noticed in other countries, but a lower grade of teachers, who are required to be competent to hear the recitations, to ascertain that due preparation has been made, and to assist the pupils, if necessary. They are appointed by the grand master of the university, on the nomination of the provisor, and receive, at first, merely a provisional appointment, during which time their nomination may be recalled.

The steward has charge of the domestic economy, under direction of the provisor. All purchases of considerable amount are made by contract, and according to the estimates sanctioned by the council of the university; smaller purchases may be authorized by the council of the academy. The warrant of the provisor is a sufficient authority to the steward for expenditures which have received the regular sanction, or for small extra ones. The steward is also treasurer of the college, keeps a regular account of receipts and disbursements, and of purchases. He makes up, weekly, an account of provisions received and issued. Every eight days the provisor verifies the balance sheet, and inspects the books once a month. The steward furnishes to the minister of public instruction a monthly statement of his accounts, with the vouchers, which are examined in the appropriate bureau. Besides this, he transmits, yearly, an abstract of his account to the same officer. His books, and the state of the treasury, are subject to a quarterly inspection by an officer deputed by the rector of the academy. He prepares for transmission to the rector, by the provisor, a quarterly account of the stock on hand. This officer gives bonds for the faithful performance of his duties.

The servants of the college are under the special charge of the steward. Some of them sleep in rooms connected with the dormitories. Every night one keeps watch, that there may be assistance at hand in case of sickness, two servants dividing the night watch between them. During the day, one of them is required to go the rounds of the halls, court, and stairs, to see

that all is in order, and, during play hours, another is always in attendance at the door of the receiving-room, to call those students whose friends desire to see them.

The officers of the colleges, from the provisor to the professors inclusive, are appointed by the grand master of the university.

The different officers are paid according to the grade of institution to which they belong, a classification having been made for that purpose. When the salaries are small, as in the case of inferior officers, they are secured an increase according to the term of service. All who enter into obligations to serve in the career of public instruction for ten years, are exempted from regular military service, though not from jury-duty, and service in the national guard. All receive pensions for long continued and faithful discharge of duty, and these increase with the time during which they are enjoyed. Their emoluments are, in general, not confined to the salaries which they receive, but also depend, in part, upon the number of students under their charge, each one having a certain proportionate interest in the fees paid to the college, according to his responsibility. When the college has a surplus income over and above its expenditures, it is divided among the officers, under the direction of the university council. The provisor, censor, chaplain, and directors of studies, are required to live in the college. Rooms are in some cases provided for the professors, but no allowance is made for quarters to those who reside out of the institution. The directors of studies and chaplain are boarded by the college. A physician and surgeon visit the college once a-day. The nursing is done by sisters of charity.

*Admission.* The pupils are of two classes, boarders (internes), and day-scholars (externes), from the "institutions" and boarding-schools. To be admitted, a youth must have attained eight years of age, and produce a certificate of vaccination. In addition, to be received as a boarder, he must know how to read and write, and, as a day-scholar, to read, write, and cypher. The provisor alone has the authority to grant admission.

The boarders are divided into three divisions. The first consists of the eighth and seventh classes, and forms the petty-col-

lege (petit-collège). The second of the sixth, fifth, fourth, and third. The third of the second and rhetoric class, and of the philosophy classes. Each class has its dormitories, with separate beds for every pupil. There is a special superintendence for each of these divisions.

Among the boarders, part receive both maintenance and instruction gratuitously, having the benefit of the royal or communal bursaries (bourses) founded for that purpose. Others have aid from parts of bursaries. The expenses for books and for the studies of those who are full bursars are defrayed, as well as for their clothing, maintenance, and instruction. The royal bursars are appointed by the minister of public instruction, the communal by the municipal councils of the towns who hold the bursaries. These pupils are admitted between the ages of nine and twelve, and may, according to law, be sent away from the college if they do not pass a satisfactory examination at the close of any year.

*Order of the day.* From five A. M. to six the pupils rise, dress, wash, and attend prayers. Six to seven, the directors of studies examine their written exercises, in succession, the pupils being meanwhile at study. Seven to half past seven, the pupils recite. Half past seven to eight, breakfast. Eight to ten, lessons of the professors. Ten to eleven, writing, arithmetic, and drawing. Eleven to twelve, preparation of lessons. Twelve to half past one, P. M., dinner and recreation. Half past one to half past four, lessons of the professors. From half past four to five, luncheon and recreation. Five to half past seven, preparation of lessons. Half past seven to eight, supper. Eight to nine, recreation, religious reading, prayers, and to bed. During meals a pupil reads a lesson pointed out by the provisor.

*Discipline.* The form of the discipline is military; the pupils march in regular order, and are taught the more simple parts of the drill. All the signals are given by the beat of drum.

The students are allowed to receive visits from their parents or guardians, or friends, with express permission of the provisor. These visits are restricted to the period from dinner-time to half past one, on ordinary days, and on Sundays and

holidays from dinner-time to three o'clock. As a reward for good conduct, they may be permitted to leave the college on Thursdays at ten o'clock, and on Sundays and festivals after service, to remain until seven in the evening in winter, and eight in the summer. One of their parents, or some person of credit, must leave the college and return with them. They are required to wear the uniform while out.

The porter, who receives their permits to go out, marks upon them the time of their return, and overstaying the time is attended with the forfeiture of one or more turns of leave. These permissions to leave the grounds can only be granted twice a month. Great doubt was expressed to me, by a high authority, of their efficacy, and of the expediency of permitting visits to be received. In a country, however, where the ties of domestic life are very feeble, the practice of placing boys in the colleges tends to weaken them still further, and they might be quite sundered if no communication took place between parent and child during the whole ten years of the collegiate course.

Pupils are allowed to correspond with their parents only, or with persons approved by them, and the letters pass through the hands of the provisor. Their pocket-money is regulated by the provisor; there is an understanding on the subject with the parents, who are not allowed to furnish money directly to their children.

The day-scholars are marched to and from the college by the heads of the houses where they reside, or by a responsible substitute. They enter the class-rooms and leave them at a different time from the boarders, so as to cut off unnecessary communication. In case of absence, the censor reports the pupil to the master of his school or to his parents. A professor may suspend a day-scholar, but the provisor alone can dismiss him. The day-scholars are not allowed to wear the uniform of the boarders.

The punishments recognised by law for the boarders are, deprivation of recreation and extraordinary task, deprivation of the opportunity of walking out, retrenchment in diet, refusals of leave to go out, or to receive their friends, imprisonment,

with a task, deprivation of the uniform, and occupation of a particular place in the class-room, study-halls, &c., deprivation of vacations, and dismission. None of the punishments but the last is permitted to interfere with the attendance on the lessons of the professors. Nothing can, however, be worse conceived than the public shame put on a pupil by changing his dress, and its concomitant circumstances. Whether extra tasks are admissible in an enlightened system of instruction, seems to me more than doubtful; they serve fully to secure the disgust of the pupil to what he should rather be induced, if possible, to like. The last four named punishments can only be inflicted by the provisor, the others may be inflicted by order of the censor, professors, or directors of studies. In the case of a royal bursar, the provisor has the right of suspension, and must report the circumstances to the minister; they are examined by an inspector, who reports, and by the result the case is decided: the explanation of this delicacy towards the royal bursars is, that their parents have usually earned these places for their children by some service, and hence that they should not be deprived of their reward but upon the strongest grounds.

*Instruction.* The courses of the colleges are intended to fit their pupils for the first degree in letters and science, and for pursuing the course of the different faculties in the academies, to enable them to enter a literary or scientific career, or the profession of theology, law, or medicine.

It has been a subject much agitated, whether the instruction in letters and science should be combined or successive, and the law at different times has, as already stated, varied on this point; that both letters and science were to be embraced in the courses does not seem, for many years, to have been at all doubted. The law of 1806, which may be considered as the basis of the present system, connected them; that of 1821 severed them, and confined instruction in the mathematical and physical sciences to the last year of the course. In 1826 they were again united. Great difficulty has been found, apparently, in determining the extent and in giving a place to certain branches, and natural history has thus, as we have seen, been

transferred frequently from one part of the course to another, and has probably never been efficiently taught.

The branches are divided into two sets, those which are obligatory upon all, and those which may be pursued or not, at the option of the parent of the student. Some of these latter, as, for example, the modern languages, are furnished by the college without charge, and the others must be paid for extra. The obligatory courses are those of French, Latin, Greek, geography, history, rhetoric, philosophy, mathematics, physics, chemistry, and natural history.

There are nine classes, which are subdivided into sections, according to the number of pupils. Not more than twenty-five should, according to law, be in a division and under one instructor, though this number is frequently exceeded, rising as high, including the day scholars, as sixty, and even seventy. Some colleges have a preparatory class, or classes below the eighth, for very young pupils. The following is, according to the latest laws on the subject, an outline of the instruction in the different classes:

Elementary Classes. These are two in number, and are taught sacred history, French and Latin grammar, geography, arithmetic, and writing. A lesson every morning, and one in the afternoon, three times a week, are devoted to the French and Latin grammar. Two lessons a week to sacred history, geography, and arithmetic.

Sixth Class. The Sunday Gospels in Latin. Selectæ è Profanis, Cornelius Nepos. Æsop's Fables compared with those of La Fontaine. Geography commenced. Jewish and Christian morals. Sacred history. History commenced. Writing and arithmetic continued. Natural history once a week.

The classics and French occupy five lessons in the morning and three in the afternoon, per week. One afternoon lesson is devoted to geography and mythology.

Fifth Class. New Testament, the Acts of the Apostles. Selectæ è Profanis. Phædrus' Fables. Greek roots. Extracts from Lucian's Dialogues. Ælian. Isocrates. Themes. Ancient history one afternoon per week. Geography. Telemachus. Writing and arithmetic continued. Natural history.

French and the classics occupy, per week, five morning and three afternoon lessons. History and geography one lesson. Natural history one afternoon class and an extra morning class.

Fourth Class. New Testament in Greek. Quintus Curtius. Cæsar, Cicero de Amicitiâ et de Senectute. Greek roots. Xenophon's Cyropædia. Plutarch's Lives. Selections from Ovid and from Virgil's Bucolics and Georgics. Latin prosody. Latin versification commenced. Selections from Fenélon. Charles XII. History, by a special professor, once a week. Roman history.

Arithmetic. Linear drawing, and drawing of the human figure commenced, and continued in the other classes.

The morning hours, and three of the afternoon lessons, are devoted to the classics and to French, one afternoon, besides an extra morning lesson, to geography and history, and one to arithmetic.

Third Class. New Testament, Saint Luke (Greek text). Cicero's Orations. Virgil. Latin versification. Plutarch (morals). Homer. Selections from Masillon, Buffon, and Boileau. History, by a special professor, twice a week. History of the Middle Ages. Age of Louis XIV., by Voltaire.

All the morning and two of the afternoon lessons are occupied with French, Latin, and Greek. One afternoon, and one extra morning lesson, are devoted to history. Two to geometry.

Second Class. New Testament (Greek text). Livy. Cicero de Officiis et de Oratore. Tacitus. Virgil. Horace's Odes. Philippics of Demosthenes. Plato. Homer. A tragedy of Sophocles or Euripides. Oration of Chrysostom. The Rise and Fall of Rome. The Universal History of Bossuet. Modern history. Rousseau. Introductory exercises to the course of rhetoric. Narratives in French and Latin. Arithmetic, in its various branches, two lessons per week.

The morning lessons and two of the afternoon lessons are occupied in classics and French. Two of the afternoon lessons are devoted to history and one to chemistry.

Rhetoric Class. New Testament, Acts of the Apostles (Greek text). Conciones è Latinis Scriptoribus Excerptæ. Cicero's Orations. Tacitus. Horace. Virgil. Lucan. Demosthenes, oration for the crown. Conciones Græcæ. Homer. Pindar. A tragedy of Sophocles or Euripides. Rhetoric. Funeral Orations, by Bossuet and Fléchière. La Bruyère. French dramatic classics. Boileau. The Henriade. Latin and Greek versification and composition. History of France. Elements of Geometry. Plane Trigonometry.

Five morning lessons and four of the afternoon are devoted, per week, to French and classics, and one afternoon to history. One extra morning class to cosmography, preceded by a review of arithmetic and geometry.

Philosophy Class. *First year.* Mental and moral philosophy. Written compositions in Latin and French, on subjects of metaphysics, logic, or morals. Geometry reviewed. Algebra to quadratic equations, with a review of the rules of arithmetic. Trigonometry. Elementary ideas of the system of the world. Physical science commenced.

Four lessons are devoted to elementary mathematics, and one to elementary physics. Five to philosophy. Once a week there is an extra lesson on physics and chemistry. The lectures on philosophy are given in French.

Philosophy Class. *Second Year.* The elements of algebra completed. Application of algebra to geometry. Principles of descriptive geometry, five hours per week. In the first half year the elements of physical science, and the general principles of chemistry, are completed, and in the second the elements of chemistry and mineralogy. These occupy four hours per week. Six classes of mathematics, those of physics, and the study hours of the day are devoted to these sciences. Alternate compositions on physical and mathematical subjects.

*Religious Instruction.* Besides the study of the New Testament in a Latin translation and in the original Greek version, there are special lessons by the

Catholic and Protestant chaplains to the students of their respective creeds. There are prayers at rising and going to bed. Graces at meals; and a short extract is read from a religious work before retiring, at night.

*The modern languages* are taught in the fifth, fourth, third, and second classes. In the fifth two hours and a-half, in the other classes two hours per week are occupied with them. A study-hall is provided for learning the lessons given by the teachers of modern languages, and the pupils are superintended during the study hours by a director of studies.

The English and German are the modern languages taught.

In comparing these courses with the acquisitions necessary for the degree of bachelor of letters and of ~~branches~~ of sciences, it will be seen that, in general, the student must have passed through one year of the philosophy class to be able to stand an examination upon the subjects enumerated as essential to receiving the former, and two years of the same class for the latter.

A student who has entered at nine years of age, and gone regularly through the nine years' courses, including the first year of philosophy, may commence at eighteen the study of law or theology, and by the addition of another year in college, or by extra study, that of medicine. It appears, then, that besides the direction towards a general mental training, the studies pursued in the colleges of France have a direct bearing upon the career which the student is to follow in after life.

I proceed next to consider the means taken to stimulate to exertion. These consist mainly in places in the class, in examinations, and prizes.

*Examinations.* These ought to take place, according to law, at the end of the fifth and tenth months of the courses. The law further provides that all those of Paris shall be held at the same time, or nearly so, in the different colleges, by committees of examiners appointed by the rector of the academy, one committee being for each class, examining separately, and holding their sessions for five hours on two successive days. The examinations to be viva voce, the written compositions which have gained the highest place from the beginning of the course being submitted to these examiners. The committees are directed to report to the inspector-general, and the result of the examinations should be made known through the pro-

visor to the students. The examination at the close of the tenth month should determine whether the pupil may pass to a higher class or not; and if then found deficient, he has the privilege of re-examination at the close of the vacation, and if he have made up the deficiency, may be permitted to rejoin his class. In fact, the law in regard to examinations is not executed, and the pupils are regularly advanced, every year, until they reach the fourth class, where they are obliged to pass a satisfactory examination before they can enter the third. This is considered a defect, since there is no method of stopping the idle or incompetent at the threshold. The neglect of the prescribed examinations, at the end of each year, produces evils which have been severely censured by those most competent to judge, from their connexion with public instruction in France.*

*Prizes.* The college year is closed by the distribution of prizes which have been gained in the various classes. These are awarded after the examination of all the compositions of the half year, which are valued according to a system of marks. They are given in a public meeting of the college, and with much ceremony. The highest prizes in philosophy and rhetoric are called prizes of honour (prix d'honneur), and have attached to them the substantial privilege of exemption from regular military service. In each class there is a first and second prize, which cannot be divided, and the number of "accessits" must not exceed eight. The books to be given as prizes are determined by the rector.

There is, at Paris, a second distribution of prizes, resulting from a competition (concours) among the colleges of Paris and Versailles; this distribution is made with much ceremony by the grand master of the university, in presence of the officers of that body, the assembled students of the colleges, and the public. The pupils of the classes above the sixth compete for these prizes, which embrace the circle of their different collegiate studies. At the same meeting, a list of those who have gained the prizes in the colleges is read.

* See M. Cousin. Sur l'Instruction Secondaire de Prusse. Paris, 1837.

The system of emulation is probably carried further in these institutions than in any others which I visited. Indeed, it is the basis of all exertion; the great motive which is placed before the student, and which he obeys. He is constantly under this artificial stimulus during his college residence, and the result affects his character in after life. The present social condition of the literary and scientific ranks in France, as a class, is produced by the results of a competition, which extends from the beginning to the end of their career.

The great stress which is laid upon composition, especially that in the French language, by making the prizes hinge upon it, cultivates this art to a high degree, and creates the ready writers who are constantly issuing from these colleges, and engaging in literary pursuits for a subsistence.

*Holidays.* The vacations are for about six weeks, from the close of the month of August until the middle of October. During these periods the students may go home, or may visit such families as their parents indicate. Those who remain in the college are occupied, during part of the time, in regular studies, under the charge of an adjunct or of a director of studies. They take frequent walks during these vacations.

There are, beside, during term-time, days on which there are no lessons, when, however, the students, in general, do not return home. On New Years' day all have permission to leave the college. On the Monday and Thursday before Lent, and the Wednesday after Easter Monday, on Whit-Monday, &c., those who have received special permission may leave the premises. On Sundays, and some of the other holidays, the pupils take walks, at the discretion of the provisor, weather permitting.

*Domestic economy.* As the economical arrangements of these institutions have been the subject of much consideration and trial, I have thought that a brief sketch of them, as laid down in the laws, might be profitable.

The expenditures of the colleges are divided into the following six heads: first, diet; second, repairs and washing; third,

clothing; fourth, emoluments; fifth, petty expenses; sixth, miscellaneous and extra expenses. The first includes provisions for the supply of the students, chaplain, directors of studies, and servants, fuel, &c., for the kitchen. The second, the washing and repairs of the clothing of the pupils. The third, the purchase of new clothes. The fourth, the emoluments of the officers, the salaries of inferior officers, and the wages of the servants and workmen. The fifth includes the expenses of lighting and warming the college, of books for studies, of repairs of furniture, and of the infirmary, &c. The sixth needs no explanation. The amounts estimated as necessary for each of these expenditures are submitted by the provisor to the rector of the academy, and the councils decide in relation to authorizing them. They also determine if proposals shall be received for supplying the articles required, or if they shall be purchased by agreement, or at the market prices. In the first two cases, the approbation of the council is necessary to conclude the bargain, and in the last, the authority of the provisor is sufficient to enable the steward to make the purchase.

The steward has charge of all the goods and chattels of the college, and is intrusted with the receipts and disbursements, giving bonds for the faithful discharge of his duties. He pays no bill without an order from the provisor, whose authority entitles him, also, to use the sums which may be necessary for the daily expenses of the house, and to whom he must account at least once a fortnight; the receipts constitute his vouchers. He keeps the following books:—1st, A register of all moneys received, stating the purpose for which they were paid in. 2d, A journal of receipts and disbursements. 3d, A ledger, in which the accounts are posted under the heads of debtor and creditor. 4th, A record of the receipts and issues of provisions, divided into as many accounts as there are different kinds of supplies, stating, also, the use to which each article has been applied. On the last day of every quarter the steward balances this account and makes an inventory of the stock on hand. The provisor and commissaries, appointed

by the rector from the academic council, verify this inventory by the accounts in the book.

The provisor examines the steward's statement of the balance on hand every eight days. At the close of the month, he inspects all his books, and ascertains that they agree, or reports any deficiency to the minister. He also verifies, monthly, the account of stock. The state of the steward's accounts is further examined, quarterly, by the rector of the academy to which the college belongs, or by a deputy, who reports to the minister. At the same time, this officer ascertains if the provisor has discharged his duties in regard to the accounts. Every month the steward transmits to the minister a literal copy of his register of moneys received, and a statement of his receipts and expenditures, with his vouchers. He also forwards, quarterly, his account of stock.

Before the close of the month of March, the provisor furnishes to the rector of his academy, a statement of the accounts of the year, with a report upon this department of the college service. These are referred to a committee of the academic council, who report in May, and their report, with the original documents, and the remarks of the rector upon them, are forwarded to the minister of public instruction.

Every year, about the first of January, the steward prepares a statement of the receipts and disbursements, exhibiting the balance on hand at the close of the last year; the sums received and expended during the year, with a statement of their purposes, and the balance on hand. Also, an account of the stock on hand at the date of the last report, the receipts and issues during the year, and the amount on hand. The steward certifies these accounts, which are examined and approved by the provisor, and forwarded to the minister.

When the monthly accounts of the steward are received in the office of the minister, they are examined, and if mistakes in the figures, or omissions, are detected, or modifications are necessary, the accounting officer is at once informed of it. The vouchers remain on file in the office until the close of the year, when they are appended to the general account.

The annual statements having been duly verified, are transmitted to the court of accounts.

Thus there are two sets of checks, one from the academic council and rector, the other from the ministerial bureau, and both are revised by the court.

## NORMAL SCHOOL OF FRANCE.

The "normal school," intended to furnish professors for colleges, was established in 1794, by the same convention which created the polytechnic school. The organization proposed by the law was upon a scale entirely beyond the wants to be supplied, and notwithstanding the exertions of its eminent professors, the school had but a temporary existence, and ill success, mainly from the unprepared state of the pupils who had entered it, and to whom the kind of instruction was entirely unadapted. There were thirteen courses of lectures, and among the professors were Lagrange, Laplace, Haüy, Monge, Berthollet, Volney, Bernardin St. Pierre, Sicard, and Laharpe. The school was suppressed by a decree of April, 1795, and its pupils dispersed. After the re-organization of the university, in 1806, the expediency of reviving the normal school appears to have been felt, and it was reorganized in 1808. The number of pupils provided for in the new plan, was three hundred; but from 1810 to 1826 there were never more than fifty-eight actually in attendance. According to the plan of instruction, lectures were to be attended out of doors, and interrogations and study to take place within the school, under the charge of the elder pupils. The recitations of the pupils to each other were called conferences, a name which is still preserved, being applied to the lessons given by the teachers, who are called masters of conferences. The duration of the course of instruction was limited at first to two years, but subsequently extended to three. The school was a second time suppressed, in 1822, and in 1826 an institution, termed a "preparatory school," was substituted for it, which in its turn was abolished, and the old normal school revived by a decree of the lieutenant-general of the kingdom, on the 6th of August, 1830. A report was made

by M. Cousin, Secretary of the Council of Public Instruction, in October, 1830, the recommendations of which were adopted substantially. New regulations for the course of study, the general arrangements and discipline, have been gradually prepared, and the school has commenced a career of usefulness which it bids fair to prosecute with increasing success.

The chief purpose of the normal school is to give its pupils ample opportunities of preparation for the competition for places of adjuncts in the colleges (cours d'agrégation), and its arrangements are all subordinate to this object. In this competition, however, the pupils of the school meet on an equal footing, merely, with all other candidates.

The officers, in 1837, were, the director,* who did not reside at the school, nor take part in the instruction; the director of studies, the resident head of the establishment;† eight masters of conferences for the section of letters; six masters of conferences, and one for the drawing department, for the section of sciences; two preparers (préparateurs); a sub-director, charged with a general superintendence of the pupils; and two assistants, called superintending masters. The masters of conferences have, in general, equivalent duties to the professors in the colleges. In 1837 there were eighty pupils in the school, of whom forty-nine were supported entirely by the funds allowed by the government, and eighteen had half their expenses defrayed.

The normal school at present occupies a part of the buildings belonging to the Royal College of Louis-le-Grand, and the college furnishes the food and clothing of the pupils by agreement with the school. This connexion has advantages, and among them that of enabling the pupils to have some practice in teaching, but they are more than counterbalanced by disadvantages, and the friends of the school are earnest in their endeavours to procure a separate domicile for it. The accommodations for lodging, study, instruction, and exercise, as far as the building and its scite are concerned, are certainly of a most limited kind.

* M. Cousin, peer of France, secretary of the council of the university, &c.
† M. Viguier.

*Admission.* The number of pupils who may be admitted is determined every year by the probable number required to fill the vacancies in secondary instruction. The admissions are made by competition, and for the most successful competitors a limited number of bursaries (bourses), are established, divisible into half bursaries, which are distributed to those who require assistance. The candidates enter their names at the academy nearest to their residence, between the fifteenth of June and of July, every year. Each candidate deposites the following certificates, viz. of the date of birth, showing that he is over seventeen and under twenty-three years of age; of having been vaccinated; of moral conduct; of having completed, or being about to complete, his studies, including philosophy, and if he intends to become a teacher of science, a course of special mathematics and of physics; a declaration from his parent or guardian, if the candidate is a minor, that he will devote himself for ten years, from the period of admission, to public instruction. These lists are forwarded by the rectors of the several academies, with their remarks, to the council of public instruction, which returns, before the first of August, a list of those persons who may be examined for admission. This examination is made in the several academies, with a view to select the most prominent candidates, whose cases are to be ultimately decided by competition at the school in Paris. It consists of compositions upon subjects which are the same for all the academies, and of interrogations and oral explanations. For the candidates, as future instructors in letters, the written exercises are a dissertation, in French, on some points of philosophy, an essay in Latin, an essay in French, a Latin and Greek version, and Latin verses. The oral examinations turn upon the classical authors read in college, and upon the elements of philosophy, rhetoric, and history. The candidates in science have the same written exercises in philosophy and in Latin versions, and in addition, must solve one or more questions in mathematics and physics. The oral examinations are upon subjects of mathematics, physics, and philosophy, taught in the philosophy class of the colleges.* All the written exer-

* See this Report, p. 434.

cises and notes of the oral examinations are forwarded to the minister of public instruction, and submitted severally to a committee of letters and a committee of science, taken from among the masters of the normal school, the director being chairman of each committee. These committees decide whether the candidates are fit to be allowed to present themselves for examination at the school, and those who are deemed worthy, receive a notice to report themselves on or before the fifteenth of October. Previous to this competition the candidates are required to present their diploma of bachelor of letters or of sciences. The masters of the normal school are divided into two committees, one of letters and the other of science, for conducting these examinations, which are oral, and the result of which determines the admission or rejection of the candidate. On admission, the pupil makes an engagement to devote himself to public instruction for ten years.

*Instruction.* The present arrangement of the courses of instruction can only be regarded as provisional, improvements being gradually introduced, as observation shows their necessity. The principle declared by the director, M. Cousin, to be that of the school in this respect, is worthy of all commendation. "When," says M. Cousin, in his Report of 1835–6,* "experience shows the necessity or utility of a measure which the fundamental regulations of the school have not provided for, it is by no means proposed at once to the royal council for adoption as an article of the regulations; authority is asked to put it to the test of practice, and it is only when found repeatedly successful that it is deemed prudent to convert it into a regulation." A close observation of the merits and defects of the system is thus made to pave the way for judicious changes.

The full course of the school, at present, occupies three years. The pupils are divided into two sections, that of letters and of science, which pursue separate courses. In the section of letters, the first year is devoted to a revision, and the second to an extension, of the higher courses of the col-

* École Normale. Règlements, programmes, et rapports. Paris, 1837.

leges, and the third is especially employed in fitting the pupils to become professors. In fulfilling this object, however, no instruction in the science or art of teaching is given in the establishment, nor is it obligatory upon the pupils to teach, so that, as far as systematic practice goes, they derive no direct benefit from the school; it is a privilege, however, which many enjoy, to be called to give lessons in some of the royal colleges, particularly in that with which the school is now connected by its locality. When the pupil intends to devote himself to teaching in the grammar classes of the colleges, or is found not to have the requisite ability for taking a high rank in the body of instructors, he passes at once from the first year's course to the third, and competes, accordingly, in the examination of adjuncts (agrégés). The consequences of the low esteem in which the grammar studies are held, have been much deplored by the present director of the school,* and a reform in regard to them has been attempted, with partial success.

The courses are conducted by teachers called masters of conferences, who seldom lecture, but question the pupils upon the lessons which have been appointed for them to learn, give explanations, and are present while they interrogate each other, as a kind of practice in the art of teaching. In some cases, the students themselves act as masters of conferences.

The course of letters of the *first year* comprised, in 1836–7,†

1. Greek language and literature, three lessons per week. 2. Latin and French literature, three lessons. 3. Ancient history and antiquities, three lessons. 4. A course of philosophy higher than that of the colleges, three lessons. 5. General physics, one lesson. Chemistry, one lesson, the courses being introduced chiefly to keep up the knowledge of these subjects. 6. German and English language, each one lesson.

The conferences, or lessons, on general physics, chemistry, and the modern languages, are by pupils who give instruction and explanations to their comrades.

* Rapport sur les travaux de l'école normale pendant l'année, 1835–6. Par M. Cousin.

† The distribution of subjects is taken from a manuscript kindly furnished to me by the director of studies, M. Viguier; it does not agree precisely with the plan marked out in the regulations.

At the end of the first year there are examinations, according to the result of which the student passes to the courses of the second year, or, in the case before stated, to those of the third year, or leaves the school. These examinations are conducted by inspectors-general of the university, named for the purpose by the minister. Pupils who have passed, may present themselves at the university as candidates for the degree of licentiate of letters.

The *second year's* course of letters does not necessarily include any scientific studies.

The courses of language and philosophy go into the history of these subjects. They consist of—1. Lectures on the history of Greek literature, three lessons per week. 2. On the history of Roman literature, two lessons. 3. On the history of French literature, one lesson. 4. English language, one lesson. 5. On the history of philosophy, two lessons. 6. Continuation of the historical course, two lessons. The recitations are accompanied by suitable written exercises.

At the end of the year the pupils are examined. Those who have not already obtained the degree of licentiate of letters are now required to do so, or to leave the school.

The examinations for this degree consist of compositions in French and Latin prose, on different days. Latin verses and Greek themes. Explanations of selected passages from the second book of Herodotus, the speech of Pericles in Thucydides, the Gorgias of Plato, the speech of Demosthenes against Leptines, the chorusses of Œdipus at Colonos, the Hecuba of Euripides, the combat of Hercules and Amycus in Theocritus, the hymns of Synesius, Cicero de Oratore and de legibus, the Germany of Tacitus, the Treatise of Seneca de beneficiis, the last two books of Quintilian's Rhetoric, the fifth book of Lucretius de natura rerum, the first book of Horace's Epistles, the second book of Horace's Odes, the Troas of Seneca.

These books are liable to be changed, from time to time, on notice being given. The candidate is expected to answer the questions on philosophy, literature, history, and philology, to which the reading of the author may give rise.

In the *third year* of letters, the courses are special, the divisions corresponding with the courses of the royal colleges, and consisting of grammar, humanities and rhetoric, history and philosophy. Each pupil takes his place in one or other of these

divisions, and is not required to follow the courses of the others.

The lectures and recitations constituting the entire course of letters of the third year were, during the second half year of 1836–7:—1. Latin language and grammar, three lessons. 2. Greek language, two lectures and one lesson. 3. Latin literature, two lectures and one lesson. 4. Greek literature, two lectures and one lesson. 5. Latin eloquence, two lectures. 6. Latin poetry, two lectures. 7. French literature, one lesson. 8. History of the philosophy of the ancients, two lectures. 9. Ancient geography, two lectures. 10. Philosophy, one lesson. 11. Natural history, one lesson. The lectures alluded to are those attended by the pupils at the Sorbonne.

The following were the courses of the different years in the section of science during the same term, the lectures being those of the faculty of sciences of the university.

*First year.* 1. Astronomy, two lessons per week. 2. Descriptive Geometry, two lessons. 3. Chemistry, two lectures, one lesson, and four hours of manipulation. 4. Botany, one lesson. 5. Philosophy, two lessons. 6. German language, one lesson. 7. Drawing, one lesson during the week, and one on Sunday.

*Second year.* 1. Physics, two lectures, two lessons, and one hour of manipulation. 2. Chemistry, two lectures. 3. Botany, one lesson. 4. Vegetable physiology, two lectures. 5. Calculus of probabilities, two lectures. 6. Differential and integral calculus, two lectures and two lessons. 7. Drawing, one lesson during the week, and one on Sunday.

*Third year.* 1. Mechanics, four lectures and two lessons. 2. Chemical analysis, two lectures and one hour of manipulation. 3. Chemistry, one lecture. 4. Natural history, two lessons. 5. Geology, one lesson. 6. Botany, one lesson. 7. Drawing, one lesson. On Sunday, the pupils make botanical and geological excursions into the environs.

The pupils undergo similar examinations to those of the section of letters, and before presenting themselves as candidates for the place of adjunct, they must have taken at least the degree of licentiate of sciences. They are, however, specially relieved from the necessity of matriculating in those courses at the university which they attend in the school, and which otherwise would be necessary in order to obtain the degree of licentiate. These are, for the mathematical sciences, the differential and integral calculus and mechanics; for the physical sciences, physics and chemistry; and for the natural sciences, geology, botany, &c. The examination for the degree

of licentiate of mathematical science may be made at the end of the second year, by pupils of this section of the normal school, and that for licentiate of physical science, at the close of the third year.

The programmes of the several lessons* in both sections are prepared by the masters, and submitted to the council of public instruction every year before the beginning of the course.

Besides these lectures and recitations, the pupils are required to attend such other lectures at the faculty of letters or of sciences of the university, or any other public institution, as may be designated to them. At the termination of the third year's course, in the month of July, they are examined in the school, and present themselves as competitors for the places of adjuncts, according to the special studies which they have pursued.

The courses of the school are arranged in reference to the competition for these places, an account of the examinations for which has already been given in the general description of secondary instruction in France.† In this competition they are brought in contact with the best talent which has chosen a different road to preferment from that offered by the normal school. Success in this trial is, of course, not always a fair criterion of the state of the school, but certainly offers, on the average, an idea of the merits of its different departments, and is so used in directing their improvement. It may be of interest, therefore, to give the results of one of these competitions, namely, that for 1836. The judges of the competition for the places of adjuncts in philosophy report ten candidates for the six places; of these, five of the successful ones were from the normal school, but the first was from another institution. For six vacancies in the higher classes of letters there were thirty candidates examined, and of these, two of the successful ones, including the first upon the list, were pupils of the school. For adjuncts in he sciences there were eight places and nineteen candidates,

* A series of programmes is given in full in M. Cousin's work, before referred to.

† See this Report, pp. 426–7.

the school furnishing six of the successful competitors, and among them the first on the list. In history and geography there were eight candidates for five places; the institutions from which they came are, however, not stated. In grammar, there were forty-one candidates for eight places; of the successful competitors the school sent five, and among them the first on the list.

The keen nature of this competition, while it excites the pupils of the school to great exertion, produces a most deleterious effect upon the health of the more feeble. Indeed, their general appearance, when compared with those of other young men of the same age, is far from favourable. It is part of a system which is considered adapted to the national character, but which is certainly by no means a necessity for men in general, since the teachers of the German gymnasia are prepared without its severe pressure.

The collections subsidiary to the instruction are:—1st. A library of works relating to education and to the courses of study, which is open for two hours every day, and from which the students may receive books. This library is under the charge of the sub-director of studies. The students are, besides, furnished with the books which they use in their classes at the expense of the school, and which, unless injured, are returned by them after use. 2d. A small collection of physical apparatus. 3d. A collection of chemical apparatus connected with a laboratory, for practice in manipulation. The courses of manipulation are not, however, carried out to their due extent, and the study-rooms are common to many individuals. The pupils are divided into two sections for study, each of which is in charge of one of the superintending masters.

*Discipline.* Though there are minute regulations for discipline, the age of the pupils and the character of their pursuits and expectations render the exercise of severity but little necessary. At the time of my visit to the school, in 1837, the youngest pupil was seventeen years of age, and there were but four of between eighteen and nineteen connected with it.

Much difference of opinion exists as to whether the frequent

permissions to individuals to leave the premises should not be replaced by excursions made by the whole of the pupils, under the supervision of an officer. At present, Sunday is a day of general leave of absence, and on Thursday afternoon individual permissions are freely granted by the director of studies.

This institution occupies the same rank with those attached to some of the Prussian universities, and intended to prepare masters for the gymnasia. It has an advantage over them in the spirit produced by the greater numbers of its pupils, and by the closer connexion with the school, which results from their studying and residing within its walls. It is, in turn, inferior to the seminaries for secondary teachers at Berlin, in the absence of arrangements for practical teaching, and in even a more important respect, namely, the want of that religious motive of action, which forms the characteristic of the Prussian system. The deficiencies of this great school, in regard to both religious and practical education, struck me, I must confess, very forcibly.*

* In the general tenour of the foregoing remarks, I have the sanction of M. Cousin, in the preface to his account of the normal school, already referred to.

## CHAPTER XII.

### SECONDARY INSTRUCTION IN PRUSSIA.

It is usual to confine the title of secondary schools to those which prepare for the learned professions, and in this view the only secondary instruction in Prussia is given in the gymnasia. But there is another class of institutions, which, according to the opinion already expressed, are as much entitled to be considered establishments for secondary instruction as the learned schools. These are the "real schools" (realschulen), of which the classes are parallel with those of the gymnasia in regard to age and attainment, and which prepare their pupils to engage in the business of life, in commerce or trade, or to pass to the special schools of architecture, engineering, manufactures, &c.* The institution at Berlin, known as the trade school (gewerbschule), will, I think, be admitted to belong to the same class, and to present, in its own peculiar line, a development quite as much above that afforded by the primary schools, as is furnished by the gymnasia. These institutions can by no means be classed with the higher burgher schools, which have been already described, differing from them essentially in the extent of their courses and the age of their pupils. It is important not to confound the trade school just mentioned with other establishments, bearing the same name, in the provinces of Prussia, and connected with the special school of mechanic arts and manufactures, called the trade institute (gewerbinstitut), at Berlin.

* M. Guizot, in his reasons for the ministerial project of a law on secondary instruction in France, supports the view which is taken above, that secondary instruction is not confined to preparation for the learned professions, while M. Cousin, in his Memoir on Secondary Instruction in Prussia, does not admit the "real schools" into the secondary class.

## DIVISION FIRST.

### SECONDARY INSTRUCTION IN PRUSSIA.

The public educational establishments of Prussia, though in general regulated by law, are not reduced to uniformity by it, the spirit of system not being allowed to check the growth of what is good. Thus it appears to me out of the question to consider secondary instruction as uniform, either as regulated by law or as existing in fact; and a very imperfect view would be given of even one branch of it, that which prepares for the learned professions, by attempting thus to present it. The very fact that the gymnasia are made provincial institutions, and not immediately dependant on the cental authority, implies varieties in the interior organization, as contemplated by the law itself. After a sketch of the general system of secondary instruction, I shall, therefore, give examples of different gymnasia, which represent fairly the range of variety in these schools, and then establish a comparison between them and others of the same grade, which have been under discussion. Proceeding to the second division of this period of instruction, I shall furnish an example of the real school, and of the secondary trade school.

The immediate authority superintending secondary instruction is the school-board (schul-collegium) of the province in which the gymnasium is situated. It will be recollected, that this school-board is a branch of the provincial consistory, of which the chief magistrate of the province, the higher president (ober-president), is the head. One of the councillors of the ministry of public instruction, at Berlin, is specially charged with the concerns of all the gymnasia,* and is the channel through which the provincial authorities communicate with the ministry. The school-board consists of the president and vice president of the provincial government, and of two school-councillors, and holds its meetings in the chief town of the province. They regulate the details of instruction and discipline

* To this gentleman, Counsellor John Schulze, I am indebted for introductions to the schools of Berlin.

in the gymnasia, correspond with the directors, appoint the teachers, except the director, who is appointed by the minister, make visits of inspection, and attend the examinations, especially those for passing to the university, and authorize the books to be used in the school and placed in the library. The inspection of religious instruction belongs to the ecclesiastical functionaries of the Protestant and Catholic churches severally.* The royal gymnasia are supported from the funds of the state and the payments of their pupils, and their receipts and expenditures, are under the charge of a special officer, or of the director. The funds of those which are otherwise endowed, are usually under the direction of a committee, or of one of the officers. In 1834 there were one hundred and twenty-four gymnasia in Prussia, attended, during the summer term, by twenty-four thousand four hundred and sixty-one students; seven hundred and thirty-eight students passed from their classes to the universities, twenty-three hundred and twenty-six to other occupations. There were thirteen hundred and thirty-four teachers in these establishments, or one teacher for about eighteen pupils. Although private institutions of this kind are allowed, they do not exist. The wants of the community are well supplied by the public establishments, some of which, as in the cities, are day, and others boarding-schools. Private secondary instruction is also permitted, the admission to the university depending upon qualifications shown on examination, and not on certificates of attendance at particular schools.

Certain strictures upon the system pursued in the Prussian gymnasia induced a close inquiry by the ministry of public instruction into its effects upon mental, moral, and physical development, the result of which was a series of regulations, transmitted in 1837† to the provincial authorities, accompanied by remarks on the existing system. By following the current of the regulations and remarks, a good idea may be obtained

* Statistisches Handbuch der deutschen Gymnasien herausgegeben, von Prof. Dr. Brauns und Dr. Theobald.

† I am indebted for this recent document, obtained in MS. while at Berlin, to the kindness of the Honourable Henry Wheaton, Minister of the United States to Prussia.

of the spirit in which the former are framed, of the arrangements which they are designed to effect, and of the objections really existing, or urged unnecessarily, against the system of the gymnasia. This document embodies the experience of this class of schools, and when accompanied by an account of the regulations for the final examinations at the gymnasia, and of the means for providing teachers, it furnishes a good idea of the general organization of secondary instruction. The regulations embrace the following heads:—1. Admission of pupils. 2. Subjects of instruction. 3. Distribution of the teachers and of the subjects of the lessons. 4. The number of hours of teaching. 5. Studies out of school hours. 6. Duration of the courses. 7. Remarks on the regulations for the examinations. 8. Remarks on the supposed defects of teachers, methods of instruction, &c. 9. Physical education. 10. Religious instruction. The following is an abstract of the remarks upon these subjects:

1. *Admission.* Experience has fully proved that the admission of pupils at a very early age into the gymnasia is prejudicial to the individuals themselves, as well as to the institutions. Neither the mental nor physical development, nor the attainment, at an early age, are adequate to the pursuit of the courses appropriate to a gymnasium, and hence the admission of very young pupils induces an improper lowering of the standard of instruction in these establishments. The ministry, therefore, recommends that pupils be not admitted at an earlier age than ten years, and that the following qualifications be required: 1. Facility in logical and rhythmical reading, both in German and Roman text, and the rudiments of grammar and orthographic writing. 2. Writing from dictation. 3. Practice in the four ground rules of arithmetic, with abstract numbers, and first principles of fractions. 4. Elements of geography, particularly that of Europe. 5. Stories of the Old Testament, and life of Christ. 6. Elementary notions of drawing and of form.

Two errors on the part of parents are pointed out by the ministry, the influence of whose advice is directed against them:—The first is, that children of feeble bodily constitutions should be devoted to literary pursuits; the second, that young

men who have passed the appropriate age for instruction may be advantageously pushed into one of the learned professions, even if they are required to teach in order to obtain the needful education.

2. *Subjects of instruction.* As the ground-work of higher instruction, the following subjects are recommended to be pursued in the gymnasia:—1. Religious instruction. 2. German. 3. Latin. 4. Greek. 5. Mathematics. 6. Physics. 7. Natural history. 8. Geography. 9. History. 10. Writing. 11. Drawing. 12. Vocal music. Experience has shown that these subjects are particularly calculated to develope the intellectual powers, and to give a systematic and practical preparation for the higher studies. The same cannot be said of the Hebrew, the study of which is specially appropriate only to theologians. A knowledge of the French is not considered essential to the true purpose of a gymnasium. This language has been made a subject of public instruction on account of its usefulness in after life, and not of its correctness or purity. With the exception of these two languages, the subjects enumerated above have always been taught in the gymnasia, though in variable proportions. No one of them could, with propriety, be omitted, and propositions to that effect will receive no countenance. The ministry does not fear that injury will result to the mental or physical development of the pupils, by pursuing all the branches in their appropriate degree, but teachers are cautioned against attempts to push one subject at the expense of another; being reminded that the course should be viewed as a whole, which must suffer by the unequal forcing of its parts. The directors of gymnasia are especially required to attend to this point, and the school-boards are requested to relieve them from teaching, as far as may be necessary to the inspection thus required.

If the subjects of instruction, as here laid down, be compared with those of the secondary schools of England, it will be found that what is there regarded as innovation, has been successfully used as the course of grammar school instruction in Germany. That the efficiency of the course is confirmed by long experience, and that the subjects are recommended, anew,

as the future course of those institutions. While ancient letters are successfully cultivated, other subjects are not neglected, but their equal importance with the former is clearly asserted, and as clearly proved by results. While the Germans have lost nothing in general literary culture by this system, they have gained much in other departments of knowledge.

The scholastic year is divided into two terms, or half years, at the close of each of which there is an examination. At the end of the second half-year, the examinations for passing from one class to another are held. The usual vacations are two weeks at Easter, one at Whitsuntide, three in August, one at Michaelmas, and two at Christmas.

3. *Distribution of the teachers and of the subjects of instruction.* There are, in general, six classes in a gymnasium, of which the lowest is called sixth, and the highest first. To produce a harmony in the methods and degree of instruction, notwithstanding the variety of subjects taught, it has, for some time, been the custom in the Prussian gymnasia to assign several subjects of instruction to the same teacher, in the same class. This arrangement is confirmed in the document under discussion. It is recommended that similar subjects of instruction be classed together, to constitute a department, as, for example, German and Latin; history, geography and natural history; and mathematics and physics. That then the instruction of one or more classes, in one department, be consigned to one teacher: as the instruction of the lower classes in German and Latin; of the two middle classes in Latin, Greek, and French; of the two higher in German, Greek, and French; of the lower and middle classes in history and geography; of the higher classes in mathematics, physics, and mental philosophy. The number of teachers would thus be, in general, in a gymnasium of six classes, two for the two lower classes, three for the two middle, and four for the two higher classes.

The ministry further recommended that kindred subjects be taught in different parts of the same term, rather than on different days of the same week, as geography at the beginning of a term, and history at the close; a Latin and Greek prose

author at the beginning of a term, and a poetical author at the close of the term, &c.

With a view to induce teachers to take upon themselves the arduous duties of a department, or class teacher, as just explained, the school-board are recommended to promote teachers according to merit, not confining their promotion to the institution in which they may be, but taking the entire range of the province. A promise is made by the ministry to pay strict attention to this rule, in promoting to vacant situations of directors of gymnasia. The class teachers are to have the title of "upper teachers" (ober-lehrer), the others being designated simply as "teachers."

It is obvious that very varied attainments are thus required of the regular, or class teachers, and that the difficulty of finding persons competent to discharge these duties increases very much as the grade of instruction becomes more elevated. Hence the practice in the gymnasia varies very materially from this recommendation. It is so desirable, in the higher classes, that the teacher should devote much time to his own improvement in the knowledge of his branch of instruction, and that he should have a strong taste for its cultivation, that in general it is found advisable to confine his attention to a single subject, or to subjects much nearer akin than those which are classed together in the enumeration just made. This is particularly the case in the mathematics, beyond the mere elements, the physics and physical geography, the natural history, the less elementary parts of drawing, and vocal music. In the case of the French language, a special teacher, from the very beginning, is absolutely necessary, if the instruction in it is to be any thing more than a matter of form.

4. *Number of hours of recitation.* This is fixed at thirty-two per week; a number which experience has shown may with propriety be exacted of students, and which is requisite to complete the course of studies. In the French colleges there are but twenty hours of regular obligatory instruction per week. This difference alone would go far to explain the reason for the fact, that in the gymnasia, the written course of

studies is closely followed in all its departments, while in the royal colleges it is but partially carried out. That in the former, all branches are deemed worthy of attention, while in the latter, in practice, some are treated as if they were not appropriate parts of a regular course of studies. The Prussian ministry asserts, very justly, that four hours every morning, and two hours in the afternoon, four times a week, may be passed in a well ventilated school-room, without injury to health. The condition in regard to ventilation is, however, essential to the truth of the proposition; it is easily realized in the gymnasia, on account of the small number constituting each class. I found, in fact, generally, but little objection to the arrangements, in this respect, in these institutions.

I had reason to remark, in the city gymnasia of Prussia, in general, that the appearance of the upper classes betokened a higher state of health than that of the lower, which would not have been the case had they been overworked. The mental labour, on the part of the student, indicated by thirty-two hours per week spent in school, is less than it would be from the same time in an English grammar school, or in one of our own establishments of the same grade, from the mode of teaching. Much of the instruction is communicated by conversation and by lecture, during the school hours, which are thus devoted to acquiring knowledge as well as to reciting what has been learned by study at other times. The school-boards are requested not to allow this time of thirty-two hours per week to be exceeded, and a general plan for the distribution of time, which will be given below, is appended to the instructions. This plan, however, may be modified according to the circumstances of the institution to which it is to be adapted, preserving, however, the number of hours devoted to religious instruction, to the languages and mathematics, as cardinal points in the system. It is deemed unnecessary to begin the French earlier than in the third class, which would postpone it as late as thirteen years of age. Natural history may be substituted for physics in the second class, and a general review of that branch, as studied in the previous years, is recommended. Drawing

and vocal music are intended to be carried so far as that the upil may follow them to advantage if his tastes incline that way.

The ministry recommends that where several hours per week are devoted to a subject, more than one each day should be given to it, so as to concentrate the attention upon a few branches every day.

**Plan of studies arranged for the Gymnasia of Prussia by the Ministry of Public Instruction, October 24th, 1837.**

| SUBJECTS OF STUDY, &c. | NUMBER OF HOURS PER WEEK. | | | | | | |
|---|---|---|---|---|---|---|---|
| | Prima, or highest class. | Secunda. | Tertia. | Quarta. | Quinta. | Sexta. | Total. |
| Latin, | 8 | 10 | 10 | 10 | 10 | 10 | 58 |
| Greek, | 6 | 6 | 6 | 6 | | | 24 |
| German, | 2 | 2 | 2 | 2 | 4 | 4 | 16 |
| French, | 2 | 2 | 2 | | | | 6 |
| Religious Instruction, | 2 | 2 | 2 | 2 | 2 | 2 | 12 |
| Mathematics, | 4 | 4 | 3 | 3 | | | 14 |
| Arithmetic and Elements of Form, | | | | | 4 | 4 | 8 |
| Physics, | 2 | 1 | | | | | 3 |

After tracing the particulars of the courses of some of the German gymnasia, we shall be better able than now to make a comparison between them and the institutions already described, as the extent and distribution of the several courses, in addition to the time devoted to each, will then be known. I may remark, in the mean time, however, that the subjects taught are not very different from those constituting the course of the French colleges, and that in reference to British schools, the amount of time devoted to different subjects, as well as the choice of subjects, more nearly resembles the Edinburgh Institution, already described, than one of the endowed English grammar schools.

5. *Study out of school hours.* On this subject the ministry remarks, that while it is highly important that the pupil should have preparation to make, requiring the exercise of his own resources, it is not less so that the amount of private study should not be carried to an injurious extent. The regulations, therefore, provide that at the beginning of each term there shall be a conference of the teachers, to determine the due amount of such work in the different classes, in detail. Every teacher should keep a book, in which the exercises actually given are accurately noted, so that the director may see at any time how far the decisions of the conference have been conformed to. The written exercises of the pupils must be regularly corrected by the teachers, and at least once a month they must review the exercise-books, to ascertain the progress and the propriety of the exercises. German and Latin compositions are to be especially attended to. Themes on subjects with which the pupils are not acquainted, so that they must labour both for the matter and language, are forbidden. The teacher should not only select subjects known to the pupils for these exercises, but should also explain the manner in which he expects them to be treated.

6. *Duration of the courses.* The six classes should, according to rule, be passed through in nine years; the three lower, each, in one year, and the three higher, each, in two years; thus a pupil entering at ten would leave the gymnasium at nineteen. The provincial school-board may determine the period of the

year for the examinations for passing from class to class. In the gymnasia, where the classes are subdivided on account of numbers, and the pupils pass from one section to another at the end of six months, the arrangement is permitted to be continued.

Superior excellence in a few departments is not to warrant the promotion of the pupil to a higher class; he must be reasonably proficient in all.

7. *Examination for the university.* The regulations of 1834, on this subject, are confirmed by the present; certain erroneous constructions, which have been put upon the former, being pointed out. The first of these is, the supposition that the amount which the pupils are able to go over, during the time fixed for examination, determines the character of their certificate of capacity, while, on the contrary, this is given for the general knowledge of the subjects which they show. The fact that this examination requires a previous attendance of two years in the first class, is considered as indicating positively that the course of that class cannot be intended to drill for the examination. The next refers to the specific direction in regard to the extent of examination on the different subjects, which being intended as a general guide to the examiners, has been misconstrued so far as to be supposed to furnish teachers who are preparing pupils the means of imparting the least amount of knowledge consistent with their passing. The ministry considers that the qualifications for the final examination have stood the test of experience, having been found not too high and calculated to promote sound instruction and not hasty preparation. As, however, the excitement of these examinations appears to act injuriously on certain temperaments, the ministry authorizes the examining commissions to reduce the viva voce parts of the examination, in cases where they see cause to do so. The ministry declines omitting the examination on the course of religious instruction.

8. *Supposed defects of teachers, &c.* The ministry states, as the remark of many intelligent persons, that while so much progress has been made within the last twenty years in the elementary schools, many of the teachers of the gymnasia, ne-

glecting the progress of the science of teaching, still follow the old routine methods; that the teachers overrate the importance of their special branches, and thus destroy the harmony of the system: that they imitate the style of lecturing of the university professors, which renders their explanations ill adapted to the age and state of progress of their pupils, and when, in consequence, their pupils get on slowly, instead of seeing in this fact the necessity for a change of method, they charge the fault upon the classes. The ministry remarks that it has not the means of judging personally whether such criticisms are well founded or not, but that the provincial school-boards, to whom they have been submitted, are of opinion that, in general, they are too severe. They are made public, however, that the teachers of the gymnasia may reflect upon them.

No specific method of instruction, it is remarked, applicable to all varieties of age, preparation, and subjects of study, can be pointed out. Every teacher should observe, closely, the results of his instruction, and adopt freely the advice or example of teachers of known ability in their art. The directors of gymnasia are especially enjoined to visit the classes of their teachers frequently, and to make such suggestions as may seem to be required; they are further expected to set an example themselves of thorough teaching. The ministry considers that the system of class teachers, already described, facilitates the course of observation recommended, by giving the teacher a thorough acquaintance with all the members of his class. The importance of making the science of teaching one of observation is thus directly inculcated.

The probation of a year, required by the decree of September 26th, 1836, before the admission of a teacher to full standing, being intended to prevent the admission of incompetent teachers, the provincial school-boards are enjoined to give effect to the provision, by promoting to the situations of ordinary or class teachers (ordinarii), those only who have shown decided capability in their art. The ministry promises to give such an extension to the normal schools for teachers of gymnasia, as shall insure an adequate supply from them.

The provincial boards are enjoined to see that suitable books are provided for the gymnasia, and to attend to regulating the details of the programmes of the different classes. This authority obviously leaves the most essential points of instruction within their power.

9. *Physical education.* On this subject, the document from the ministry states that representations have been made from many of the directors and teachers of gymnasia, that physical education should be introduced as an essential part of their systems. The necessity for due physical development is admitted; but it is argued, that in the gymnasia which receive day scholars alone, an attention to it forms no part of the duty of the teacher, who is merely bound to furnish the requisite time for recreation, and to take care that the health of the pupils is not injured during the hours of recitation by causes depending upon the school. In the boarding gymnasia the case is admitted to be different. A continuance of gymnastic exercises in these establishments, when they have been tried and found beneficial, is allowed, but the compulsory attendance of day scholars upon them is not permitted. When regular gymnastic exercises are introduced, it is made the duty of the school-board to see that a proper teacher is provided, and the exercises must be conducted under charge of the director of the institution.

I confess, that the idea of leaving the physical education of children entirely to their parents, especially in the cities and towns where the day gymnasia are usually established, seems to me very unwise; particularly so in Prussia, where all else is regulated, and where the youth are always glad to engage in gymnastic exercises, when the means are furnished to them.

10. *Religious education.* It is enjoined that this contain the whole doctrine of Christian faith, and that the instruction be given according to a regular plan.

The provincial authorities are charged with the communication of the foregoing regulations to the directors and teachers of the gymnasia, and with the superintendence of their execution.

The circular, of which I have just given an abstract, is silent in regard to the subject of the *discipline* of the gymnasia, probably because it was considered by all as in a satisfactory state. In general it is very mild. Each instructor manages his class in his own way, subject to the advice of the director, and hence, of course, there is considerable variety. Harsh punishments, and personal violence, are discountenanced in all the classes. Appeals to the moral sentiments and feelings, and admonitions, are the favourite methods of discipline. I no where saw the discipline in better condition than in these schools, the youth of the upper class, especially, going through their duties without the necessity for more than occasional admonition, and exhibiting the decorum of gentlemen in whatever situation I met them. The director is the supreme resort when a teacher fails in being able to produce proper conduct on the part of a pupil, and he may dismiss from the institution. This, however, I was informed, is rarely necessary.

From the remarks on the part which the director of a gymnasium takes in the discipline, and the references made to his relation to the teachers in their several departments, the organization of the institution may be inferred. The director, in fact, represents the central authority, from which his appointment emanates, and the teachers are directly responsible to him, holding meetings only for specific purposes in regard to the regulation of the course of studies. The system of organization of the school resembles that of the government.

The means of securing attention to study do not differ from those in other countries, and already often alluded to. The system of excitement is carried to a far less extent, in general, than in the French colleges. Emulation is encouraged, but not stimulated into ambition. In the lower classes, the pupils change places during the daily recitations; afterwards, they are arranged by monthly trials of composition, and at the examinations; and in the higher classes, from the same compositions, and from the results of their marks for daily recitation, and at the half yearly examinations. Prizes are not

given as a general rule, though there are some special ones in certain gymnasia.

This outline of the system of the gymnasia, as regulated by the central authority, requires, as already stated, to complete it, some account of the regulations for the final examination prior to passing to the university (abiturienten-prüfung), and of the means of providing teachers. The regulations for the final examination occupy fifty sections, and enter into very minute details; it will be sufficient for the present purpose to present an abstract of the more important of them under the following heads:—1. The persons to be examined, the object, place, and time of the examination. 2. The authorities by whom, and under whose direction, the examination is to be conducted. 3. The character and subjects of the examination. 4. The kind of certificate obtained on passing the examination satisfactorily, and the privileges attached to it.

*First.* The persons to be examined, &c. Those who intend to embrace one of the professions requiring a course of three or four years at a university, must, before matriculating at the university, pass the ordeal of this examination; the object being to ascertain whether the candidate has made himself duly master of the subjects required for successful entrance upon his university career. The examination must be made in a regular gymnasium, and in some part of the last two months of the scholastic year.

To be admitted to the examination, a pupil of a gymnasium must have been in its first class at least three terms of half a year each, except in cases where pupils have especially distinguished themselves during a year in this class. Three months' notice of their intention to stand this examination is to be given by the pupils to the director of the gymnasium, who advises with them on their intention, but has no right to prevent any pupil of three terms' standing in the first class from coming forward.

Persons who are educated in private undergo this same examination in any gymnasium which their parents may select. They are required to present beforehand the certificate of their

masters as to moral conduct and proficiency, and are examined at a different time from the regular students.

*Second.* By whom the examination is conducted. There is a committee for each gymnasium, consisting of the director, the masters who have charge of the higher classes, a member of the ecclesiastical authority of the place, and a member of the provincial consistory. This latter member presides, and his appointment must be approved by the ministry of public instruction. The ecclesiastical member must be approved by the provincial consistory. Besides these, there is a royal commission appointed by the ministry, and consisting of professors of the university and others, who are present as inspectors at the examination. The teachers of the gymnasium and the local authorities of the school are also present at the oral examinations.

*Third.* Character and subjects of examination. The examitions are of two kinds, written and oral. The subjects are, the German, Latin, Greek, and French languages,* for students in general, and in addition, the Hebrew for those who intend to study theology. Religion, history and geography, mathematics, physics, natural history, and the elements of mental philosophy. The subjects of the written examination are chosen by the royal commissary present, from a list furnished by the director of the gymnasium. These subjects must be such as have never been treated specially in the class-room, but not beyond the sphere of instruction of the pupils. All the candidates receive the same subjects for composition, which are given out at the beginning of the examination. The candidates are assembled in one of the halls of the gymnasium, and remain there during the period allotted for their exercises under the charge of one or other of the examining teachers, who relieve each other. The only books allowed them are dictionaries and mathematical tables. The written exercises consist, first, in a German prose composition, the object of which is to discern the degree of intellectual development, and the style of com-

* In the grand duchy of Posen, the Polish language is also one of the subjects.

position of the candidate. Second: of a Latin extempore* and a Latin composition on some subject which has been treated in the course, the special reference in this exercise being to the correctness of the style. Third: a translation from a Greek author, which has not been read in the course, and from Latin into Greek. Fourth: a translation from the German into the French. Fifth: the solution of two questions in geometry, and of two in analysis, taken from the courses in those subjects. Candidates who desire it, may be examined further than is required for passing.

Those who intend to study theology or philology, translate a portion of one of the historical books of the Old Testament, or a psalm, into Latin, adding a grammatical analysis. The time allowed for the several written exercises is as follows:— For the German, five hours; Latin composition, five hours; Latin extempore, one hour; Greek translation, three hours; translation from Latin into Greek, two hours; French composition, four hours; mathematical exercises, five hours; Hebrew exercises, when required, two hours. Four days are allowed for the examination in these subjects, and they must not immediately follow each other. The viva voce examination is conducted by the masters who have given instruction in the first class on the subjects of examination, unless the royal commissary directs otherwise. The subjects are, first, the general grammar and prosody of the German language, the chief epochs of national history and literature, and the national classics. Second: the translation and analysis of extracts from Cicero, Sallust, Livy, Virgil, and Horace; the ability of the candidates to render the author with judgment and taste being put to the test, as well as their grammatical and archeological acquirements; parts of the examination are conducted in the Latin language. Third: the translation and analysis of Greek prose and of portions of Homer, with questions upon Greek grammar, Grecian history, arts, and mythology. Fourth:

* An exercise in which the master speaks in German to the pupil, who must render the German into Latin, in writing.

translations from the French classics, during which an opportunity is given to the pupil to show how far he can speak the language. Fifth: questions upon the Christian doctrines, dogmas and morals, the principal epochs in the history of the Christian church, and the Bible. Sixth: arithmetic, the elements of algebra and geometry, the binomial theorem, simple and quadratic equations, logarithms and plane trigonometry. Seventh: in history and geography, on ancient history, especially that of Greece and Rome, and modern history, especially that of the country, on physical, mathematical, and political geography. Eighth: in natural history, on the general classification of its subjects. Ninth: in such portions of physics as can be treated by elementary mathematics, and on the laws of heat, light, magnetism, and electricity. Tenth; on the elements of moral philosophy, psychology, and logic. The future theological student must, besides, translate and analyse a portion of one of the historical books of the Old Testament.

*Fourth.* The kind of certificate obtained, and the privileges attached to it. When the examination is closed, the board already alluded to as conducting and superintending it, deliberates upon the notes which have been taken during its course, each member having a vote. Those students who are deemed to have passed a satisfactory examination, receive a certificate called a "certificate of maturity" (maturitäts-zeugniss), the others are remanded to their class, and may present themselves, after an interval of six months, for another examination, unless they are deemed entirely incompetent to continue a literary career. Proficiency in all the subjects of examination is, in general, required to entitle a candidate to a certificate, but exception is sometimes made in favour of those who show great attainments in the languages or mathematics; and in the case of students of a somewhat advanced age, the direct bearing of the different subjects upon the profession which they intend to embrace is considered. The daily records of the class-rooms are presented by the director of the gymnasium to the examiners, as showing the character of the candidates in regard to progress and conduct, these points being specially noted in the certificate. The

certificate of maturity contains, besides, the name and address of the pupil, and of his parent or guardian; the time during which he has been at the gymnasium, and in its first class; the conduct of the pupil towards his fellows and masters, and his moral deportment in general; his character for industry, and his acquirements, as shown at the examination, specifying the result in each branch, and adding a statement from the masters of drawing and music of his proficiency in their respective departments; the studies which he proposes to prosecute at the university, and to commence which he leaves the gymnasium. These certificates are delivered in an assemblage of the students of the gymnasium with suitable remarks. The certificate of maturity is necessary to enable a youth to be matriculated in either of the faculties of theology, law, medicine, and philology, in one of the national universities, to be admitted to examination for an academic degree, to be appointed to office in state or church, or to obtain one of the royal bursaries at the universities. Special exception in regard to matriculation may be made by authority of the minister of public instruction. Students who have not passed a satisfactory examination, and whose parents demand it, are entitled to a certificate, stating the branches in which they are deficient; they may enter the university with this, and are registered accordingly. This registry enables them, if they subsequently obtain a certificate of maturity, and the special permission of the minister of public instruction, to have their matriculation dated from the time of inscription. Pupils who have passed through the third class of a gymnasium are entitled to claim one year of voluntary military service, provided they report themselves at a specified time during their twentieth year.

There are two kinds of schools devoted to the preparation of teachers for the gymnasia, called respectively philological and pedagogical seminaries (philologische seminare, pädagogische seminare). One of the first kind is attached to the universities of Berlin, Bonn, Breslaw, Halle, Königsberg, and Greifswalde, and one of the second is placed at Berlin, Stettin, Breslaw, Halle, Königsberg, and Münster. Besides these, there is a

seminary for teachers of natural philosophy and the natural sciences, at Bonn.* The number of students in these seminaries is limited, not exceeding eight in general, and as their organization will doubtless be much changed when the promise contained in the circular to the provincial authorities, with an abstract of which this article begins, is performed, I have concluded to omit any special description of them. Candidates, as instructors in the gymnasia, are examined by a royal scientific commission, in behalf of the provincial school-board. This commission is composed of professors of the universities. The examinations are of different grades, but of these only the first is obligatory; the teacher being thus enabled to enter the career of instruction, in which he shows his powers quite as well as by examination. First, for license to teach (pro facultate docendi), the teacher being attached or unattached. This, when complete, includes an examination in the German language, Greek, Latin, French, Hebrew, mathematics, physics and natural history, history and geography, philosophy, pedagogy and theology, with specimens of reading. The grade of examination differs according to whether the candidate wishes authority to teach in the lower, middle, or higher classes. After passing this examination, a year's trial is necessary before the teacher can be confirmed in any place. This year of probation may dispense with the following or second examination, which, however, cannot take place before its expiration. The second examination is for a place (pro loco), in which the fitness of the candidate for a particular situation is tried. The third is for promotion (pro ascensione), and consists usually in a conference with the members of the commission. The fourth is for the directorship (colloquium pro rectoratu). These three examinations may be necessary, in certain cases, to protect the schools on the one hand, and individual teachers on the other, but it is easy to see that in general they may be dispensed with, and this, in fact, is usually done.

* Statistisches Handbuch der deutschen Gymnasien, von Prof. Dr. Brauns und Dr. Theobald, 1837, p. 46.

The latitude allowed by the Prussian regulations to the interior organization of the gymnasia, produces varieties which will be illustrated by describing the courses of three gymnasia, of which one (the gymnasium at Pforta), leans very far towards the strict classical system; a second (the Frederick William gymnasium at Berlin), represents the average system of the Prussian institutions of this grade, and a third (the real gymnasium of Berlin), is the opposite of the first. The Frederick William gymnasium of Berlin is the representative of a class containing no less than five individuals in the capital itself, while the real gymnasium stands, thus far, alone in its arrangements. Both these gymnasia are day-schools, while that of Schulpforta, one of the old Saxon "prince schools," is a boarding-school, and will afford some useful hints in regard to internal organization.

Some of the philologists of Germany, especially of southern Germany, consider that injurious changes have been made in the pure classical system of the gymnasia by the Prussian schools, while some of the reformers consider them as not going far enough in their changes. Reason will be found, as usual, between the extremes of party opinions, and sustains the plan of the Prussian schools.

Frederick William Gymnasium of Berlin.—This institution dates from 1797, and was at first an appendage to the "real school" of Mr. Hecker. It is now a royal institution, and is independent of the real school, except so far that it has the same director,* and that the preparatory classes are in the real school, in which, or in other equivalent schools, the pupils are taught until ten years of age. The qualifications for admission are those contained in the general account of the gymnasia. This gymnasium had, in 1837, four hundred and thirty-seven pupils, divided into six classes, and instructed by fourteen teachers and six assistants. The second and third classes are subdivided into two parts, called upper and

* Director Spilleke, to whom I am indebted for opportunities of visiting both institutions, and for printed and MS. documents relating to them.

lower, pursuing different courses, and both divisions of the third class are again subdivided into two others, for the convenience of instruction. The course in each class occupies a year, except in the first, which is of two years. Pupils who enter in the lowest class, and go regularly through the studies, will thus remain nine years in the gymnasium. The numbers of the several classes in 1837 were, in the first, fifty-four; in the upper second, thirty-two; lower second, forty-seven; upper third division, first, or A, thirty-six; second division, or B, thirty-six; lower third, division first, or A, thirty-eight; division second, or B, thirty-two; fourth class, fifty-five; fifth, fifty-seven; and sixth, fifty. Each division averages, therefore, nearly forty-four pupils, who are at one time under the charge of one teacher. One hundred and eight were admitted during the year, and the same number left the gymnasium; of these, twenty-one received the certificate of maturity to pass to the university, viz., ten who intended to study law, three medicine, five theology, one theology and philology, one philosophy, and one political economy, finance, &c., (cameralistic). Of these all but five were two years in the first class; out of this number two were two years and a-half in the first class, and three more had been in the gymnasium less than two years, having entered it in the first class. The average age at leaving the gymnasium was nearly nineteen years, and the greatest and least, respectively, twenty-two and between sixteen and seventeen years. It appears, thus, that on the average, the pupils actually enter at ten, and remain nine years, as required by rule.

The Cologne Real Gymnasium.—This name is explained, the former part by the quarter of the city of Berlin in which the institution is placed, and the term "real" from the introduction of a greater amount of the scientific branches, called "real," than is contained in the courses of the gymnasia in general. This institution was placed upon its present footing in 1824, and received its full development in 1829.*

* It was founded by Professor Fischer, well known by his work on physics, and is now directed by his son-in-law, Dr. August, who has followed in the steps of Fischer in matters both of science and education.

The admission of pupils takes place twice a-year, namely, at Easter and in October. The limits of age beyond which a youth cannot enter are eight and thirteen years. The qualifications are nearly those already referred to.

There were, in 1836–7, three hundred and ninety-nine pupils in this institution, divided into six classes, and instructed by eleven teachers and ten assistants. The second, third, and fourth classes are divided into two parts, forming, in fact, like the divisions in the other gymnasium, distinct classes. The number of the several classes are: first class, twenty-one; upper second class, twenty-three; lower second class, fourteen; upper third class, forty; lower third, sixty-six; fourth class, division A, sixty-nine; fourth class, division B, sixty-four; fifth class, fifty-nine; sixth class, forty-three. There is the mark of a rising institution in the large numbers of the lower classes. In 1835, eight pupils passed to the university, and in 1836 four, and at the same time, the same number went to other avocations with certificates.

The Gymnasium of Porta originated in the sequestration of the funds of a monastery, by the electoral Prince Maurice of Saxony, to the purposes of education. The first pupils were admitted in 1543. In 1815 the school passed under the authority of the Prussian government, and the courses were assimilated to those of the other gymnasia of Prussia.* The foundation yields a revenue of about thirty thousand dollars per annum. The number of pupils, in 1838, was one hundred and eighty, to which it is restricted. Of these one hundred and sixty-nine are in part or entirely beneficiaries. These are called "alumni," or "intraners," while the others, termed "extraners," receive their education free, but lodge in the houses of the professors.†

Pupils are admitted by the provincial school-board at Mag-

* To the present rector, Dr. Kirchner, I am indebted for a very kind reception at this school, the more acceptable that, during the winter, at which time my visit was made, the village near is quite out of the way of ordinary travel, and but scantily provided with accommodation adapted to the season.

† Paying one hundred and seventy-five dollars per annum for lodging, &c.

deburgh, in part on direct application, and in part on the presentation of certain communes of the province of Saxony, who have a right to the places. The rules of application having been fulfilled, and the claim of the applicant found valid, he is sent by the school-board to Pforta for examination. This requires the qualifications for the third class of an ordinary gymnasium, only the three upper classes existing in this school, and is very rigid.

The two lower classes of the school are subdivided in the same manner as the second and third in the gymnasia generally. The instructors are a rector, an inspector, six professors, and four adjuncts, besides four masters for vocal music, writing, drawing, and dancing. The course in each entire class is two years, so that in six years an intelligent and industrious pupil may pass through the gymnasium. The numbers of these classes and divisions were, in 1837, after the Easter examination—first class, thirty-five; second class, A, twenty-one; second class, B, thirty-one; third class, A, forty-two; third class, B, forty-four; total, one hundred and seventy-three. In the same year there were twenty-two graduates; of these, seven passed to the university to study medicine, four to study law, four law and political economy, three theology, one law and philosophy, one philology, one philology and natural philosophy, and one philology and mathematics.

To give the pupils of the highest class an opportunity to review the minutiæ of their grammar studies in the classics, as well as to relieve the professors, six hours of special recitation are made by each of the two divisions of the third class, four in Latin and two in Greek to members of the first class. For nine days before the half-yearly examinations there are no recitations, the pupils being employed in preparation in their study-rooms.

The collection of models for the course of drawing and of physical apparatus is small, but is increased annually by means of a special appropriation.

The pupils are divided for study into twelve groups, each

one of which occupies a room. The study-rooms contain, in proportion to their size, a number of tables, conveniently arranged for the books and papers of the pupils, each table having seats at it for four. One of the first class sits at each study-table, and has charge of the others at his table, his duty being to assist them in their lessons, as well as to keep order; in these offices he is aided by a member of the second class. The other two seats are occupied by members of the lower-second and of the two divisions of the third class. A pupil of the first class is selected to superintend each room, under the direction of a professor, who, in weekly turn, from which the director and ecclesiastical inspector are excepted, has special charge of the discipline and studies, and who occupies, during this week of duty, a room in the building with the pupils. The selected pupils, called inspectors, have a right to punish so far as to confine a pupil to the study-room during play-hours, but are required, in grave cases, to report to the professor on duty (hebdomedarius), or to the director. No violence is allowed from them to the other pupils. They are chosen every six months by the professors. The professor on duty conducts the prayers in the morning, and visits the dormitories and study-rooms after the pupils have risen and after they retire, presides at the table, and superintends the special recitations made by the younger to the elder pupils.

In the dormitories, the pupils are divided into six sections, each one composed of two study-divisions, and occupying a dormitory. The two inspectors of studies have charge of these rooms, one of them alternately superintending the rising and retiring of the pupils. Both sleep in the room with their divisions, and one retires with them. The same arrangement is followed in washing. The pupils bring water for their rooms, but other menial offices are done by servants. The pupils who board in the institution (intraners, or alumni) are so arranged at meals as to intermingle the different classes; thus, one from the first class, then one from the second, then one from the third, are next to each other, and so on, throughout the

school, as far as the unequal numbers of the classes permit. The first class pupils carve, and distribute the Sunday's allowance of wine.

Simple cases of discipline are disposed of by the inspectors, or the professor on duty (hebdomedarius), or the rector, or, if occurring in the recitation-room, by the professor in whose room it occurs. More difficult ones are reported to the board of professors, which meets for this purpose, and to discuss the general concerns of the institution, once a week. The highest punishment, consistent with retaining the pupil, is solitary confinement, with a regimen of bread and water; for offences requiring great severity, dismission is applied. The inspectors of studies are allowed to be present at the weekly meetings of the professors. The rector presides at them, and reports are received from the hebdomedarius and inspectors, and instructions are issued to them. The following provision of discipline has been found highly beneficial. Every pupil, on his admission, is assigned to the guardianship of a professor, who is expected to look to his well-being in every respect, to keep his accounts, and correspond with his parents. The extraners dwell entirely with the professors, having study-rooms in their houses.

The physical education of the pupils receives much attention. A fine garden is attached to the school, in which gymnastics are practised. Frequent walks are taken, when the weather permits, under the charge of a teacher, and the pupils bathe in a neighbouring stream. Twice in the course of the summer long excursions are made to the mountains in the neighbourhood, with the professors and their families.

The domestic economy of the establishment is controlled by a steward, who is directly responsible to, and whose accounts are inspected by, an agent from the ministry of finance of the kingdom. The farm is rented to an individual, who takes charge of the supply of the common table.

The order of the day in winter is as follows. Rise at 6¼ A. M., have prayers at 6½, and breakfast. Instruction begins at 7. Study from 8 to 9. Recitation from 9 to 10. Study

from 10 to 11. Recitation from 11 to 12. At 12 dine, and have recreation until 2 P. M. Recitation from 2 to 4. Study and teaching of the third class by the first, from 4 to 5. Study from 5 to 7. Supper at 7, and prayers. Study until 9. The under classes retire, and the first class study until 10. In summer the pupils rise an hour earlier, and have gymnastic exercises, and go to bathe between 5 and 7, instead of studying.

In this arrangement the study and recitation hours succeed each other in turn, and such is the general rule, which is, however, broken in upon by the voluntary courses, and also by those of the higher mathematics and Hebrew, which are not attended by all the pupils.

*Courses of instruction in the three foregoing gymnasia.* The subjects of instruction are nearly the same in all three of these gymnasia, viz., Latin, Greek, German, French, religious instruction, mathematics (including arithmetic, algebra, and geometry), natural philosophy and natural history, history, geography, writing, drawing, vocal music, and Hebrew for theologians. In the Frederick William gymnasium there is a course of the elements of philosophy. In the real gymnasium there are courses of English, of technology, and of chemistry. At Pforta, dancing is taught as the means of giving an easy carriage, and with gymnastics and swimming, in their appropriate seasons, as a means of health. So different are the ideas which prevail in Germany from those which have the ascendancy among us, that in this institution, directed by a clergyman, and under clerical authority in its minuter regulations, occasional balls are given, in which the first class are allowed to take a part.

For the sake of giving a full view of the differences in the courses of instruction in these institutions, I have placed their details* in parallel columns upon the same page, reserving remarks upon them until the close of this exposition. This abstract of the courses will be followed by a comparison of the

* Taken from the programmes for the summer term of 1836, and the winter of 1836–7, kindly furnished me on my visits to the several schools, by the directors Spilleke, August, and Kirchner.

time occupied in each branch during the entire course of instruction. The numbers attached to the names of the different classes show the number of hours of study per week in the regular branches in which the division of classes takes place. In like manner, the numbers attached to the several subjects of study show how many hours are occupied per week in each of the subjects by the several classes. The course of the Pforta school begins only with the third class, and hence the right hand column is vacant in the lower classes. The four lower classes of the real gymnasium may be taken as equivalents to the three of the Frederick William gymnasium; the classes do not precisely correspond, but the leading features of the courses of all above the lower third are similar.

The extemporalia spoken of in the courses of language, consist of written translations made on the spot by the pupils into a foreign language, of sentences spoken in the vernacular by the teacher. These sentences are, of course, adapted to the progress of the pupil, and are prepared beforehand by the teacher who renders them, especially in the early parts of the course, the application of the rules of grammar on which the pupil is engaged, or of peculiarities of idiom to which his attention is called.

| Frederick William Gymnasium. | Real Gymnasium. | Gymnasium of Schulpforta. |
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| Sixth Class, thirty hours. | Sixth Class, thirty hours. | |
| *Latin*, ten hours. | *Latin*, four hours. | |
| Inflections of nouns, &c. Comparisons. Conjugation of the indicative moods of regular and of some irregular verbs. Translation from Blume's elementary book. Exercises from Blume. Extemporalia. | Inflections of the parts of speech preceding the regular verbs in Otto Schulz's school grammar. A written exercise once a week. | |
| *German*, four hours. | *German*, four hours. | |
| Etymology and syntax. Exercises in writing | Grammar. Syntax. Reading exercises in Au- | |

| Frederick William Gymnasium. | Real Gymnasium. | Gymnasium of Schulpforta. |
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| upon subjects previously narrated. Exercises in orthography, reading, and declaiming. | gust's reader. Narration of stories told by the teacher. Declamation. | |
| *French*, three hours. Etymology, to include the auxiliary verbs, in Herrmann's grammar. Oral and written exercises. Reading and translation. Exercises on the rules from the grammar. | *French*, four hours. Elements of grammar to the regular verbs. Reading and translation in Hecker's Reader. | |
| *Religion*, two hours. Bible history of the Old Testament. Committing to memory selected verses. | *Religion*, two hours. Bible history. Explanation of Luther's Catechism. Committing to memory Bible stories and verses. | |
| *Geography*, two hours. Delineation of the outlines of Europe, Africa, Asia, and America, from determinate points given. Divisions of the countries, with their principal cities, rivers, and mountains. | *Geography*, four hours. General geography, according to A. Hörschelmann's outline. | |
| | *History*, two hours. Biographies from general history. | |
| *Arithmetic*, four hours. The four ground rules, with denominate whole numbers. Their applications. | *Arithmetic*, five hours. The elementary rules with whole numbers. | |
| *Writing*, three hours. Elements of round and running hand. Dictation. Writing from copy-slips. | *Writing*, three hours. Elements of forms of writing. Writing from copy-slips. | |
| *Drawing*, two hours. Exercises in drawing lines. | *Drawing*, two hours. Drawing of lines and other exercises of the hand. Drawing from engravings. | |

| Frederick William Gymnasium. | Real Gymnasium. | Gymnasium of Schulpforta. |
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| Fifth Class, twenty-nine hours. | Fifth Class, thirty hours. | |
| *Latin*, ten hours. Etymology. Use of the prepositions. The accusative before an infinitive, practised orally and in writing, and extempore, and in exercises. Translations from Blume's Reader. | *Latin*, six hours. Inflections of words, including the verbs, from Schulz's grammar. Translations in August's and Gedike's Reader. | |
| *German*, four hours. Parsing, reading, and declamation. Exercises on narrations. | *German*, four hours. Syntax. Weekly written exercises. Orthography. Declamation. | |
| *French*, three hours. Etymology, by oral and written exercises. Easier stories from Herrmann's Reader. | *French*, three hours. Irregular verbs. Translations from German into French, and vice-versa. | |
| *Religion*, two hours. Explanation of the gospels, according to St. Matthew and St. Luke. Committing to memory the principal facts. | *Religion*, two hours. Explanation of Luther's Catechism. Excerpts from the New Testament. Committing to memory facts and verses. | |
| *Geography*, two hours. Review of the last year's course. Rivers and mountains of Europe, and chief towns, in connexion. | *Geography*, one hour. Review of the last year's course. | |
| | *History*, three hours. Extracts from Böttiger's General History, relating to ancient history and the middle ages. | |
| *Arithmetic*, four hours. Review of the preceding. Fractions. | *Arithmetic*, three hours. Review of fractions. Loss and gain. Easy examples of interest and | |

| Frederick William Gymnasium. | Real Gymnasium. | Gymnasium of Schulpforta. |
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| | practice. Mental arithmetic, the four ground rules in whole numbers and fractions. Solution of easy questions. | |
| | *Geometry*, two hours. Introductory exercises. | |
| *Writing*, two hours. Running-hand from copy-slips. | *Writing*, two hours. As in the sixth class. | |
| *Drawing*, two hours. Drawing from bodies, terminated by planes and straight lines. | *Drawing*, two hours. As in the sixth class. | |
| | *Singing*, two hours. Knowledge of notes. | |
| Fourth Class, twenty-eight hours. | Lower Fourth, thirty-two hours. | |
| *Latin*, ten hours. Review of etymology. The principal rules enforced by oral and written exercises and extemporalia. Translation from Jacob's Reader and Corn. Nepos. | *Latin*, six hours. Exercises, from August's Practical Exercises, in inflections. Syntax from August's Guide to Translation. Written exercises, extemporalia. Translation of the more difficult parts of Blume's Reader. Irregular inflections. | |

| Frederick William Gymnasium. | Real Gymnasium. | Gymnasium of Schulpforta. |
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| *Religion*, two hours.<br>Gospel, according to St. Matthew, explained. Verses and psalms committed to memory. | *Religion*, one hour.<br>Bible history of the Old Testament. Exercises. Verses learned by heart. | |
| *Geography*, three hours.<br>Political geography of Germany, and of the rest of Europe. Review of the geography of the other parts of the world. | *Geography*, one hour.<br>Germany in particular. Asia, Africa, America, and Australia. | |
| | *History*, two hours.<br>General history. Modern history, with special reference to German history. | |
| *Arithmetic*, three hours.<br>Review of fractions. Simple and compound proportion. Partnership. Simple interest. | *Arithmetic*, two hours.<br>Loss and gain. Interest. August's Complete Manual of Mathematics, parts 1 to 7. | |
| *Geometry*, one hour.<br>Knowledge of forms, treated inductively. | *Geometry*, four hours.<br>Parts 1 to 7 of August's Manual of Mathematics. | |
| | *Natural History*, four hours.<br>General view of the three kingdoms of nature. Natural history of the mammalia, with demonstrations at the royal museum. | |
| *Writing*, two hours.<br>Running-hand, from copy-slips. | *Writing*, one hour.<br>As in the sixth class. | |
| *Drawing*, two hours.<br>From bodies bounded by curved lines. | *Drawing*, two hours.<br>From drawings by the teacher. | |
| | *Singing*, two hours.<br>Two and three parts. | |

| Frederick William Gymnasium. | Real Gymnasium. | Gymnasium of Schulpforta. |
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| | **Upper Fourth Class, thirty hours.** | |
| | ***Latin*, six hours.** Declensions. Translation from Gedike's Chrestomathy. Exercises from August's Guide. Extemporalia. | |
| | ***German*, three hours.** Particles. Synonima. Exercises of style. Oral expositions. | |
| | *French*, three hours. Translation from the French of Duvinage's Guide. From the German of Beauvais. First part of Knebel's Grammar. Exercises and extemporalia. | |
| | *Religion*, one hour. Chief truths of Christianity and morals. Exercises. History of the New Testament. Exercises. | |
| | *Geography*, two hours. The Germanic Confed. The Austrian states. | |
| | *History*, two hours. | |

| Frederick William Gymnasium. | Real Gymnasium. | Gymnasium of Schulpforta. |
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| | Natural history of birds, with demonstrations at the royal museum. | |
| | *Writing*, one hour. As in the sixth class. | |
| | *Drawing*, two hours. As in the sixth class. | |
| | *Singing*, two hours. This class is voluntary. | |
| Lower Third, thirty hours. | Lower Third, thirty-one hours. | Lower Third, thirty hours. |
| *Latin*, eight hours. Syntax. Rules of cases from Zumpt. Exercises and extemporalia. Inflections formerly learned reviewed. Cornelius Nepos. | *Latin*, seven hours. Gedike's Chrestomathy. Grammar, from August's Guide. Exercises and extemporalia. O. Schulz's Latin Anthology. | *Latin*, fourteen hours. Cæsar B. Gall. book 5 and book 1. Corn. Nep. Atticus. Preface. Milt. Themistoc. Ovid's Metamorphoses, books 8 and 2, expurg. Prosody. Zumpt's Grammar. Exercises and extemporalia. |
| *Greek*, six hours. Etymology, from Buttmann's Grammar to regular verbs, incl. Translation from Greek into German from Jacob's, from German into Greek from Hess's Exercises. | *Greek*, four hours. Inflections to the verbs in $\mu\iota$. Translation from Buttmann's Compendium. | *Greek*, five hours. Translation from Jacob's Elements. Geographical division of Europe and Africa. Inflections to irregular verbs, from Buttmann's Exercises. |
| *German*, two hours. Compositions in narration and description. Declamation. | *German*, three hours. Principles of versification, from Wakkernagel's collection of the German poets. Selections from the grammar. Essays. | *German*, two hours. Written and oral exercises. Declamation. |
| *French*, two hours. Repetition of inflections, and exercises by extemporalia and in writing. Translation of the fables from Herrmann's Reading Book, 2d course. | *French*, three hours. Ancient and modern Greece of Duvinage. Grammar. Exercises and extemporalia. | *French*. See remarks at the close, the class divisions in this course not corresponding with those of the others. |

| FREDERICK WILLIAM GYMNASIUM. | REAL GYMNASIUM. | GYMNASIUM OF SCHULPFORTA. |
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| *Religion*, two hours. Morals and Christian faith. | *Religion*, one hour. Catechization on the gospel according to St. Luke. | *Religion*, two hours. History of David, partly from the Old Testament, partly related. Gospel according to St. Luke read and explained. Committing to memory verses from the Bible. Examination on the sermon. |
| *Geography*, two hours. Physical geography. Europe and the other parts of the world. | *Geography*, one hour. General geography of Europe. | *Geography*, three hours. General Exposition. America and northern and middle Asia. Southern Asia and Africa. |
| *History*, two hours. General view of ancient and modern history. | *History*, three hours. Roman history. Ancient geography from Schmidt. Ancient history from Schmidt. | |
| *Mathematics*, four hours. Legendre's Geometry, book 1. Decimals. Algebra. Square and cube root. | *Mathematics*, five hours. August's Geometry, parts 10 and 11. Algebra. Powers. Square root. Simple equations. Solution of examples. | *Mathematics*, four hours. Vulgar and decimal fractions. Similarity of triangles, and propositions depending upon these properties. |
| *Drawing*, two hours. Introduction to landscape drawing. | | |

Reader. *Writing* and *drawing*, two hours each, for those pupils who do not take a part in the *singing* lessons of two hours, which will be more fully spoken of at the close. The same exercises are continued in the following class.

| Frederick William Gymnasium. | Real Gymnasium. | Gymnasium of Schulpforta. |
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| **Upper Third Class, thirty hours.** | **Upper Third Class, thirty-one hours.** | **Upper Third Class, thirty hours.** |
| *Latin*, ten hours. | *Latin*, seven hours. | *Latin*, fourteen hours. |
| *Division I.* Syntax, from Zumpt. Review of the preceding course. Oral exercises in construction of sentences. Written exercises and extemporalia. Cæsar Bell. Gall., books 1, 2, and 7, in part. Ovid's Metamorphoses, extracts from books 7 and 8. Prosody, rules from Zumpt. | August's Libamenta. Courses, three and four. Syntax. Exercises and extemporalia. Ovid's Metamorphoses, books 1, 2, 3, and 4, excerpts. Written translations. Committing to memory remarkable passages. Prosody. Theory of hexameters. | Cicero, Lælius, Cato major. Cæsar, Bell. Civ., books 2 and 3, in part. Ovid's Metamorphoses, books 4, 5, and 6, excerpt. Zumpt's Grammar. Inflections. Syntax. Exercises and extemporalia. Exercises in prosody. |
| *Greek*, six hours. | *Greek*, four hours. | *Greek*, five hours. |
| *Division I.* Etymology, from Buttman's Grammar. Oral and written exercises and extemporalia. Jacob's Reader. | Review and extension of the preceding course. Matthiæ's Greek Reader. | Xenophon, Cyrop., extracts from books 2 and 3. Buttmann's Grammar. Irregular verbs, &c. Ditfurt's Vocab. Greek Exercises. |
| *German*, two hours. | *German*, three hours. | *German*, two hours. |
| Examination of exercises on historical subjects. Poetical selections for declamation. | Reading and commenting on the German classics. Exercises, with rules for style. Free delivery. | Correction of exercises. Declamation. Prosody, from Heise. Rules for formation of sentences. |
| *French*, two hours. | *French*, three hours. | *French*. |
| Exercises in translation. Written exercises. Extemporalia. | Selections from Mignet, Thiers, &c., and from Herrmann and Bächner's Manual. Exercises in speaking and writing. Extemporalia. | See close of this list. |
| *Religion*, two hours. | *Religion*, one hour. | *Religion*, two hours. |
| Principal passages from | Gospel, according to St. | History of the Old and |

| Frederick William Gymnasium. | Real Gymnasium. | Gymnasium of Schulpforta. |
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| the gospels gone over. General view of the Old Testament writings. | Mark, with catechization upon it. | New Covenants, with references to the Bible. |
| *History and Geography*, four hours. Roman history, from the Punic Wars to the destruction of the western empire. History of the middle ages, three hours. Review of the five general divisions of the world, one hour. | *History and Geography*, three hours. History of the middle ages. Review of geography. | *Geography and History*, three hours. Geography and history of European states, particularly of the German Confederation, from Dittenberger's Instructor. |
| *Mathematics*, four hours. Geometry. Legendre, books 1 and 2, and part of 3. Algebra, with exercises from Meyer Hirsch. | *Mathematics*, six hours. Simple and quadratic equations. Theorems from general theory of equations. Mensuration of regular polygons and circles. | *Mathematics*, four hours. Algebra. Simple equations. Equality of plane rectilinear figures, from Swinden. Exercises. |
| | *Natural History*, four hours. Botany, according to the natural system. Natural history of worms. | |
| Lower Second Class, thirty-one hours. | Lower Second Class, thirty hours. | Lower Second Class, thirty hours. |
| *Latin*, eight hours. Extracts from Livy and Cæsar de Bell. Civ. Review of Bell. Gall., books 2 and 3. Syntax. Exercises and extemporalia. Committing to memory exercises from Livy and Cæsar. Ovid's Metamorphoses, books 11 to 14. | *Latin*, seven hours. Half the year with upper third. The other half: Sallust, Bell. Jug., book 1. Virgil's Æneid, books 1 and 2. Exercises and extemporalia. | *Latin*, twelve hours. Cicero Orationes in Cat., pro lege Manil., pro Archia. Cic. Selected epistles from Matthiæ. Exercises from Ovid, fastis, and Terence Adelphi. Zumpt's Grammar. Particles. Syntax Orn. Exercises. Extemporalia. Latin verses. |
| *Greek*, six hours. Homer's Odys., 11, 12, 13, and 14. Exercises on the dialects. Xenophon's Anab. 1, 2, and | *Greek*, four hours. As in the upper third class. | *Greek*, five hours. Xenophon's Anab., 1, 2, and part of 3. Homer's Odys., 21 to 24. Exercises. |

| Frederick William Gymnasium. | Real Gymnasium. | Gymnasium of Schulpforta. |
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| part of 3. Excerpts from the grammar reviewed. Exercises and extemporalia. Syntax. | | |
| *Hebrew*, two hours. Grammar, ending with irregular verbs. Easier parts of historical books of Scripture translated. Vocabulary learned by rote. Exercises on regular and irregular verbs out of the recitation room. | | *Hebrew*, two hours. Elements of grammar from Gesenius. Exercises in reading and writing. Paradimes. Vocabulary learned. |
| *German*, two hours. Correction of written exercises and essays. Exercises of delivery. | *German*, three hours. In summer combined with upper third class. In winter, reading German classics. Delivery. Essays. | *German*, two hours. View of the principal epochs in the history of the German language. Principles of inflection. Essays. |
| *French*, two hours. Voltaire's Charles XII. Exercises and extemporalia. | *French*, three hours. In summer, with upper third. Selections from Brüchner's Reader. Grammatical exercises, and translation from Knebel's Grammar. Extemporalia. | *French*. See close of this list. |
| *Religion*, two hours. Explanation of the principal parts of the Epistles of St. Paul, with historical sketches, and a view of the life of early Christian communities. | *Religion*, one hour. In summer, with upper third. In winter, Christian system of morals. | *Religion*, two hours. Gospel according to St. Mark, with suitable illustrations. Acts of the Apostles, in part. |
| *History*, three hours. Roman history, from the Punic Wars. History of the middle ages concluded. General view of history. | *Geography and History*, three hours. In summer, with upper third. In winter, with upper second. Modern history, from 1660 to 1815, General geography of Europe. | *History*, three hours. History of the East and of the Greeks, with ancient geography from Lorentz's work. |

| Frederick William Gymnasium. | Real Gymnasium. | Gymnasium of Schulpforta. |
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| *Mathematics*, four hours. | *Mathematics*, five hours. | *Mathematics*, four hours. |
| Geom. to proportions and simple figures. Elements of algebra. Logarithms. | Simple and quadratic equations. Powers. Roots. Logarithms. Review of planimetry. Stereometry. Algebraic exercises. | Proportions. Powers and roots. Similarity of figures. Circles, from Swinden. Exercises. |
| *Natural History*, two hours. | *Natural History*, two hours. | |
| Mineralogy. Botany, especially of native plants. | Cryptogamic plants. Propagation of the principal cultivated plants. Mineralogy. | |
| | *Physics*, two hours. | |
| | General properties of bodies. Solids, from Fischer's Natural Philosophy. | |

The courses of English, of writing, and drawing, are as in the upper third class. Besides these, two hours are set apart for conversation in the French language, and exercises in extempore writing.

| Upper Second Class, thirty-two hours. | Upper Second Class, thirty-two hours. | Upper Second Class, twenty-nine hours. |
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| *Latin*, nine hours. | *Latin*, seven hours. | *Latin*, eleven hours. |
| Cicero's Orations, pro Rosc. Amer., de Amic., de Senectute. Livy, books 22 to 25, inclusive. Virgil's Æneid, books 1 and 2. Some eclogues and excerpts from Georgics. Exercises and extemporalia. | Livy, books 29, 30, 31, and 32. Terence, Andria. Virgil's Æneid, books 7, 8, 9, and 10. Cicero de Amic. Grammatical exercises and extemporalia. | Cicero, in Verrem, Act ii. book 4. Excerpts. Livy, parts of books 22 and 23. Tacitus. Germania excerpts. Virgil's Æneid, books 9, 11, and 12. Exercises and extemporalia. |
| *Greek*, six hours. | *Greek*, four hours. | *Greek*, six hours. |
| Homer's Iliad, books 4 to 11, inclusive. Arrian Alex. expedition, books 1 and 2. Buttmann's Grammar, with exercises and extemporalia. | Homer's Odys., books 9 to 11. Arrian exped. Alex., books 2 and 3. Grammatical exercises and extemporalia. | Herodotus, parts of books 6 and 7. Plutarch. Excerpts from Alexander. Homer's Iliad, books 4 and 5. Exercises and extemporalia. |

| Frederick William Gymnasium. | Real Gymnasium. | Gymnasium of Schulpforta. |
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| *Hebrew*, two hours. Books of Judges and of Ruth, with exercises of syntax. Easy exercises, and committing vocabulary to memory out of the class-room. | *Hebrew*, two hours.* Historical pieces from Gesenius's Reader. Book of Genesis. Exercises in vowels from Hantschke's Reader. Syntax. | *Hebrew*, two hours. Gesenius's Reader, parts 1 and 2. Vocabulary. Gesenius's Grammar. Verbs and adverbs. Writing of Hebrew characters. |
| *German*, two hours. Essays. Delivery. | *German*, three hours. Varieties of prose and poetry, with examples. History of National Literature. Essays. Delivery. | *German*, two hours. Elements of versification, with essays and poetical exercises. |
| *French*, two hours. Excerpts from Herrmann and Brüchner's Manual of the more recent French literature. | *French*, three hours. Parts of the Manual of Ideler and Nolte, viz.—extracts from Rollin, Le Sage, Molière, Delavigne, &c. Exercises and extemporalia. | *French.* See at the close of this list. |
| *Religion*, two hours. Christian faith and morals. | *Religion*, one hour. Christian system of religion and morals. | *Religion*, two hours. Acquaintance with the sacred writings, and books of the evangelical church. Essays. |
| *History*, three hours. Review of ancient history and geography, using the Latin language. | *History*, three hours. Modern history, from 1500 to 1815. General geography of Europe. | *History*, two hours. History of Rome to the monarchy, with a geographical introduction from Lorentz. |
| *Mathematics*, four hours. Arithmetical geometry and plane trigonometry. Algebraic exercises. Polygons. Stereometry. Simple and quadratic equations. | *Mathematics*, six hours. Plane trigonometry from Legendre. Theory of the circle. Logarithms. Stereometry from Legendre. Binomial. Powers. | *Mathematics*, four hours. Progressions and logarithms, with applications. Stereometry and plane trigonometry. Exercises. |
| *Physics*, two hours. General physics. Electricity and magnetism. | *Physics*, three hours. Electricity and magnetism. Heat, light, and sound, from Fischer's Physics. | |

* Voluntary.

| Frederick William Gymnasium. | Real Gymnasium. | Gymnasium of Schulpforta. |
|---|---|---|
| | *Chemistry*, two hours. Metalloids, acids, alkalis, earths, from Wöhler's Principles. Two hours of voluntary practice in the laboratory. | |

The course of English in the real gymnasium, in this class, is continued by reading the Vicar of Wakefield, and by exercises from the grammar of Burckhardt and Jost. There is a voluntary course of technology, in the same institution, in this class, two hours per week, including a discussion of the uses of animal and vegetable products in the arts, oils, resins, starch, sugar, &c. Methods of making acids, salts, glass, earthenware, &c. This class is attended by those who do not study Greek. The courses of writing, drawing, &c. are continued as in the lower third class.

| First Class, thirty-one hours. | First Class, thirty-two hours. | First Class, twenty-nine hours. |
|---|---|---|
| *Latin*, eight hours. Horace's Odes, books 3 and 4. Cicero against Verres. Tacitus, Annals, books 11 and 12, and extracts from 3 to 6. Cicero, Tusc. quest. Extempore translations from German into Latin. Exercises. Declamation. | *Latin*, six hours. Horace's Odes, from books 2 and 3. Cicero de Officiis. Tacitus, Annals, books 1, 2, and 3. Extemporalia. Written translations from German into Latin. Disputations. | *Latin*, ten hours. Horace's Odes, book 4. Carm. Sæc. Epist., book 1. Cicero Tusc. disput., books 1 and 4. Tacitus, Annals, book 1., Plautus captiv. Extemporalia. Written translations from German into Latin. Latin disputations. |
| *Greek*, six hours. Homer's Iliad, book 16, Odyssey, books 9 to 16, inclusive. Hippias Major, Charmides, and Gorgias of Plato (excerpts). Sophocles' Edip. tyr. and Antigone. Grammatical exercises. Buttmann's Grammar. | *Greek*, four hours. Homer's Iliad, books 5 to 9 and 10 to 14. Thucydides, book 2. Sophocles's Œdip. tyr. Plato, apolog. Grammatical exercises. | *Greek*, six hours. Homer's Iliad, books 7 and 8. Sophocles' Philoctetes and Ajax. Demosthenes' Orations, Phil. 1, Olynth. 1, 2, 3, for peace. Greek exercises and extemporalia. |
| *Hebrew*, two hours. Second Book of Kings. Genesis. Psalms, 61 to 100. Grammatical criticisms of historical excerpts, or of psalms, as an exercise at home. | *Hebrew*, two hours. Exodus, and selections from the other historical books read. The Psalms. Exercises from Hantschke. Selections from the New Testament in Greek into | *Hebrew*, two hours. Psalms, 46 to 51. Book second of Samuel. Grammar (Gesenius) and exercises. |

| Frederick William Gymnasium. | Real Gymnasium. | Gymnasium of Schulpforta. |
|---|---|---|
| | Hebrew. Written translations of Psalms. | |
| *German*, one hour. Criticism of compositions. General grammar, and history of the German Grammar and literature. | *German*, three hours. Composition and criticism of German authors. | *German*, two hours. General history of German literature, from the middle of the fourteenth to the second quarter of the eighteenth century. Ballads from Gothe. Compositions. |
| *French*, two hours. Selections from Scribe and Delavigne. Exercises and extemporalia. | *French*, three hours. Selections from Molière, Scribe, Delavigne, and Pascal. Written and oral translations from German into French, from Rabener's Letters, Wieland, and Schiller. Extemporalia. | *French*. See the close of this list. |
| *Religion*, two hours. History of the Christian Church, to the times of Gregory VII. | *Religion*, one hour. The religions of antiquity. The Bible. | *Religion*, two hours. Vogel's Instructor in Christian Knowledge. |
| *History*, three hours. Modern history, and review. | *History*, three hours. Ancient and modern history, from Schmidt. | *History*, two hours. Of the middle ages, from Gregory VII. to the Reformation. |
| *Mathematics*, four hours. Plane trigonometry and application of algebra to geometry. Algebra. Mensuration and conic sections. Binomial theorem. Exponential and trigon. functions. | *Mathematics*, five hours. Review of plane trigonometry. Spherical trigonometry. Geometry, constructions, equations of the third and fourth degrees. Numerical equations of higher degrees. | *Mathematics*, four hours. Conic sections. Permutations and combinations. Diophantine analysis. Exercises in trigonometry and geometry. |
| *Physics*, two hours. Physical geography. Mechanics. | *Physics*, three hours. Properties of the gases. Electricity. Light. Colours. | *Physics*, one hour. General physics. General properties of bodies. Magnetism. |
| *Philosophy*, one hour. Propædeutics. Logic. | | |
| | *Chemistry*, two hours. The metals. | |

The course of English in the real gymnasium includes the reading of Shakspeare's Cæsar and Hamlet, exercises, extemporalia, and conversation. That of technology is the same as described for the upper second class. Those of drawing, &c. are the same as for the lower third, and are continued or not, at the option of the student.

The instruction in vocal music in the Frederick William gymnasium has not been inserted in the list, because the classes do not correspond precisely with those in the other branches, especially the upper classes. There are five classes for vocal music, the fifth receiving two hours of instruction in musical notation and singing by ear. The fourth, time and cliffs, &c. Exercises in the natural scale, and harmony. Songs and chorals with one part. The third, two hours, formation of the scale of sharps, running the gamut with difficult intervals, combined with the practical exercises of the last class. The second, two hours, repetition of tones; sharps, and flats. Formation of the scale of flats. Exercises of songs and chorals, in two parts. The first class is an application of what has been learned, as well as a continuation of the science and art, and all the pupils do not, of course, take part in this stage of the instruction. The course is of four hours per week, two for soprano and alto, one for tenor and bass, and one for the union of the four parts. The proficiency is indicated by the fact, that the pupils perform very creditably such compositions as Haydn's "Creation," and Handel's "Messiah."

In the real gymnasium there are four singing-classes, in the fourth of which all the members of the fifth class of the gymnasium must enter for elementary instruction. In the first or higher class, the Missa of Mozart, Te Deum of Haydn, Hymn of Mozart, Sampson of Handel, De Profundis of Gluke, and the Storm of Haydn, are practised. Opportunities are also afforded of learning instrumental music.

In the gymnasium of Pforta there are five classes, which have six regular hours of instruction and several extra hours every week, besides practisings of particular parts by individuals and in the choir.

The course of drawing in the Frederick William gymnasium is similar to that in the real school, which I shall describe hereafter as to the method of teaching. At Pforta there are three classes, formed from the upper and lower second classes, pursuing the same general method. The upper and lower third classes of this same school are subdivided into four sections, each having one hour's instruction per week. All the pupils receive dancing lessons, and are divided for this purpose into twelve or thirteen sections, each of which has an hour of instruction per week. The same teacher assists in the charge of the gymnastic exercises.

The courses of writing, drawing, and music, are classed in the real gymnasium under the head of dexterity in art (Kunstfähigkeiten), and in that of Pforta as arts (Künsten).

The course of French language at Pforta is confined to the three upper classes, which are divided into five sections for this instruction. In the fifth class the course consists of inflections of the different parts of speech from Hirzel's Grammar, and

reading two hours. In the fourth class, inflections continued, and pronouns from Hirzel. Charles XII. begun. Exercises, two hours. In the third class, Charles XII. continued; syntax; grammar continued; exercises, two hours. In the second class grammatical exercises from Hirzel, and correction of written exercises; selections from Ideler & Nolte's Reader, two hours. In the first class written exercises and extemporalia; poetical part of Ideler & Nolte's Reader.

In a review of the courses, as laid down in the foregoing abstract, the guiding principle of each of the three schools shows itself completely by characteristic differences in the instruction, while their subordination to a general scheme appears by their never diverging from each other beyond certain limits. To permit this variety is, to my apprehension, more judicious than to require strict uniformity in the different schools. It allows a latitude for youth of different tastes and powers of mind to choose, without departing from a professional career. The advocates of an exclusively classical system would find too much of innovation even in the school at Pforta, while those who take a more moderate view would consider it as presenting an example of a close classical training, with accessaries from the modern languages and sciences. The real gymnasium is the other extreme of this class of secondary schools; the modern languages and sciences are brought more prominently forward, but with a sincere desire on the part of its founder and director to effect what they consider a due equilibrium; hence the classical course differs principally in quantity from that of the other schools, following them closely in the authors read and in the quality of the instruction. The character of these schools, which their programmes thus indicate, is borne out by inspection. There is no disposition to neglect science at Pforta, nor to neglect the ancient languages at the real gymnasium. At the former the lessons in mathematics are most admirable, and at the latter the classics of the highest class which I heard were excellent. This spirit of toleration, if it may be so called, is fully manifested also in the Frederick William gymnasium. It constitutes a peculiar part of the excellence of the Prussian gymnasia, and is one source of the superior mental training which they afford.

The courses themselves presenting this variety in these schools, the same may be naturally expected in regard to the methods of instruction. In fact, the methods of teaching the same subject vary even in the same school, each teacher being allowed to pursue his own plan, under advice of the director. The power of a method depends so much upon the peculiar manner of applying it by the teacher, that this latitude is favourable to progress; the regular conferences which take place among the teachers, and the supervision of the director, keeping the diversity within reasonable bounds.

In the classical course, the oral and written exercises are varied in their relative proportions to each other. The translation from Latin or Greek into German, and vice versa, the grammatical exercises, Latin compositions or essays, the extemporalia before explained, the practice in versification, &c., are varied in amount in the different classes, according to the views of the instructor. At Pforta, the exercises of the first, or highest class, are carried on chiefly in Latin, and the amount of reading in the classics is greater than in the other schools. The Greek is begun in the lower third class of all of these schools, but while it is obligatory in the others, may be omitted in the real gymnasium, an omission which, however, supposes a destination different from that of the other pupils. One characteristic difference between the classical instruction in the higher classes and in those of similar schools in England and our country, is that, in general, it supposes the grammatical minutiæ to have been fully impressed in the lower classes, and discusses philological questions, varieties of reading and collateral subjects of antiquities, history, biography, and geography. The students receive much oral instruction, which they are required to record. The same is the practice to even a greater extent in the other departments of instruction, and the students thus acquire a facility in taking notes which they turn to good account in the university lectures, and which strikes a stranger with surprise on first witnessing it. None of the higher authors are read at Pforta without these oral expositions being given regularly, and usually extempore, by the professors, at stated hours.

In general, I believe the plan of instruction is sufficiently apparent from the programme, but in the case of the Latin, in the lowest class of the Frederick William gymnasium, which struck me as particularly appropriate, does not appear to be there developed. The inflections of the nouns of the first declension is first taught, then of adjectives of one termination, then of verbs of the first conjugation; these are then illustrated by a variety of written and oral exercises, consisting of sentences made up of them. The knowledge of the pupil is thus rendered at once available, and the application is close to the theory, which, at the age of pupils of the sixth class, is especially desirable. Most of the pupils in all these schools begin their classical course at nine or ten years of age, and yet, judging by the progress shown in the programme of the first class, and by the scholars which the universities of northern Germany turn out, and which are, in fact, formed in the gymnasia, the proficiency is all that can be desired. It is what a youth of nineteen issuing from one of our colleges would be proud of, and clearly proves that the classics are not begun too late.

The mother tongue and French are both taught in these institutions, in combination with the classical studies. These languages are not merely entered upon the programme, but are actually more or less thoroughly taught, according to the time which is allotted and the skill of the teacher. The course of German would seem calculated to make both writers and speakers, and, probably, if the demand for the latter were equal to that of the former, this would prove true in the latter case, as it does in the former. The French is treated essentially in a different way from the ancient languages, and it is considered no objection that the two different methods should be practised in the same school. The best instruction which I saw was given by a native teacher, who more than made up for the want of perfect accuracy of pronunciation by the thorough knowledge of the vernacular idiom, which enabled him to anticipate and remove the difficulties of his pupils. In regard to usefulness in common life, and to affording a variety of structure for comparison, the French ranks before the Eng-

lish for the purposes of the German scholar. The latter language is pursued, however, by many pupils of the real gymnasium, and, with other modern languages, may be studied privately at the other gymnasia, generally.

The religious characteristic of these schools is a striking one, and important in its effects. The Bible is taught rather than a particular creed, though from the fact that the pupils are nearly all of one creed, this forbearance is not essential, and is not always exercised. The separation of religious from other instruction can but have a most injurious tendency, and their connexion, as in these schools, on the contrary, a happy influence. Religious knowledge is classed with the sciences in the formal division of the subjects of study.

The courses of geography and history in the three schools selected as examples, are all thorough, but differ in arrangement and method. The constant reference to the black-board for the delineation of maps, which occurs in the geographical course of the Frederick William gymnasium, is productive of the best results. The student is interested and furnished with an additional means of impressing the facts upon his memory. A similar course, in regard to history, is only partially in use, and would be a decided improvement. The introduction of biography, as the foundation for history, is practised in the real gymnasium with great success.

The mathematical course of all these schools is of a highly respectable character, and is executed to the extent which appears in the programme. That of the real gymnasium is very thorough, as the time devoted to the different parts shows, while, as far as the same subjects are studied in the Frederick William gymnasium, it is scarcely behind the former institution. The instruction is much more thorough than that given in the similar courses of the French and English schools of this grade.

The courses of physics and natural history are much more extended in the real gymnasium than in either the Frederick William or Pforta gymnasium, the latter course, perhaps, too much so. The course of physics at Schulpforta is very meagre, and natural history is not taught at all, an omission which its

country locality renders the more remarkable. The elements of chemistry are taught regularly in the real gymnasium, and practice in the laboratory may be had by those who have time for it from their other studies. The students have also an opportunity to attend a course of lectures on technology. The courses of physics of the real gymnasium and of the Frederick William gymnasium are exceedingly well calculated to fulfil their object, to give general ideas of natural phenomena, without going into what may be considered technical minutiæ; in the latter school physics is connected with an excellent course of physical geography. It seems to me doubtful whether, in the natural history course, more than a general outline of the subject, is necessary, with the prosecution, practically, of such branches as the locality of the institution may render applicable for improving the habits of observation and discrimination. The scientific details of the different branches belong rather to special purposes of study than to general education. The experience of these institutions may, however, be appealed to as proving the entire compatibility of such instruction with an otherwise sound system, and the entire possibility of accomplishing it without neglecting other more important branches.

Drawing and vocal music, which form parts of the regular courses of all these institutions, have not yet found their way into the systems of other nations on the same footing with the regular studies. As a part of physical training, they are important, and as offering a relief from severer pursuits, further recommend themselves in this connexion. In the system of drawing especially recommended by the Prussian ministry, models alone are used; this method, however, is not fully carried out in many schools. The old system of copying from drawings or engravings having obtained a foothold, cannot be very easily displaced by the new one, which requires, besides a change in the method of the master, an expenditure for a new set of apparatus. The Frederick William gymnasium has a course on the elements of philosophy and logic, which is wanting in the others, but it occupies a very small share of attention.

It will be my object next to compare the time considered

necessary for the several courses in these three schools, and as the Pforta gymnasium has no classes below the third, this will require a comparison between all the classes of the others above the third and those of Pforta, while between the two other schools the comparison of the entire course will be most satisfactory.

The following table contains the numbers for these comparisons. In the first column the subjects of study are stated; in the second and third columns the number of hours devoted to these subjects respectively, during the whole course, at the Frederick William and real gymnasia. Those exercises which are voluntary, or where one hour of a particular subject may be exchanged for an hour of some other, at the option of the student, or of his parents, are marked. The following three columns contain the sum total of the hours of study in the five classes above the third of the Frederick William and of the real gymnasium, and the total in the five classes of that of Schulpforta.

Comparative Table of the time occupied by the classes in three Prussian Gymnasia.

| SUBJECTS OF STUDY, &c. | Sum of all the hours per week. | | Sum of the hours of the five upper classes. | | Sum of the hours of the five classes. |
|---|---|---|---|---|---|
| | Fred. William Gymnasium. | Real Gymnasium. | Fred. William Gymnasium. | Real Gymnasium. | Gymnasium of Pforta. |
| Latin, | 75 | 49 | 45 | 33 | 61 |
| Greek, | 30 | 20 | 30 | 20 | 28 |
| Hebrew,* | 6 | 4 | 6 | 4 | 6 |
| German, | 20 | 26 | 9 | 15 | 10 |
| French, | 28 | 25 | 10 | 15 | 6 |
| English, | | 6† | | 6† | |
| Religion, | 16 | 10 | 10 | 5 | 10 |
| Geography, | 10 | 9 | 3 | 2 | 4 |
| History, | 14 | 21 | 14 | 14 | 11 |
| Mathematics, | 32 | 43 | 20 | 27 | 20 |
| Physics, | 4 | 10 | 4 | 10 | 1 |
| Chemistry, | | 4 | | 4 | |
| Practical Chemistry, | | 4† | | 4† | |
| Technology, | | 2† | | 2† | |
| Natural History, | 2 | 8‡ | 2 | 8 | |
| Philosophy, | 1 | | 1 | | |
| Writing, | 7 | 6§ | | 3† | 4 |
| Drawing, | 8 | 6‖ | 2 | 7† | 6 |
| Singing, | 12 | 8† | 8 | 4† | 6 |
| Dancing, | | | | | 1 |

* For theological students.

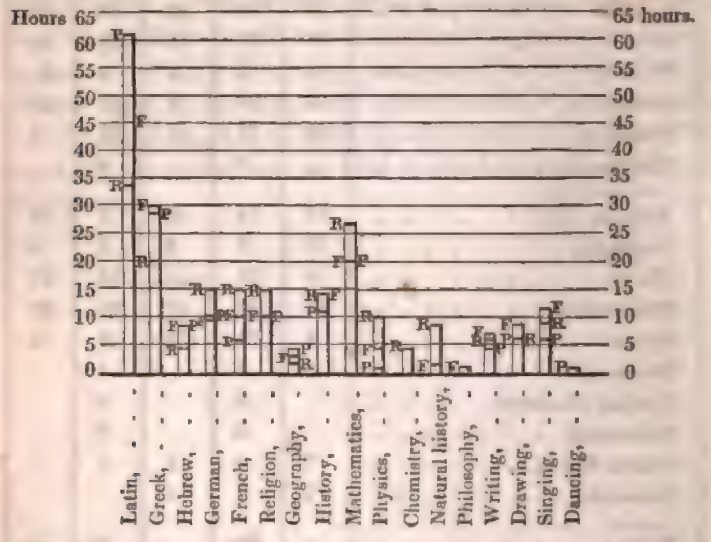
† Voluntary studies, or exchangeable for the same number of hours of the Greek course.

‡ Besides eight hours of voluntary or exchangeable lessons.

§ Besides three voluntary hours.

‖ Besides eight hours of voluntary, or exchangeable instruction.

The annexed diagram represents these results, and enables the eye to take in the proportion of the several courses in these same five classes. The lengths of the vertical lines from the marks F, R, and P, to the horizontal line, 00, below, at which they all end, shows the proportion of time occupied in five classes of the Frederick William and real gymnasia, and at Pforta respectively. For example, the proportion of the Latin in the three institutions is expressed in the left hand column by the lengths from P to 0, from F to 0, and from R to 0, respectively, and similarly for the other courses in the other columns or upright lines.*




The respective characters of these schools appear even in higher relief, from an examination of the foregoing table, than they did from the programme of studies, for though the same works may be read, the amount of Latin which it is possible to read thoroughly in seventy-five hours must be very different from that in forty-nine, and the proportions of forty-three, thirty-three, and sixty-one, cannot express equal degrees of attainment

* The voluntary studies in the real gymnasium are omitted, and the proportions of writing, drawing, &c., include all the hours devoted to these branches.

in that language, though, as already shown in a former part of this Report, the proportional proficiencies are not accurately indicated by similar numbers. The figures in the columns for the Frederick William and Pforta gymnasia will be found to be much more nearly equal to each other than those for either of the others. The same result appears from inspecting the diagram, where the letters F and P are quite near to each other. In general, F is between the two others, substantiating the remark already made of the average position taken in regard to the languages and sciences by the Frederick William gymnasium.

In the comparison of the department entitled "arts," beginning with writing, and including also drawing, music, and dancing, the whole of the regular hours of instruction in all the classes of the three schools are compared with each other; this being the most accurate mode of comparison, since these exercises may be taught to nearly the same advantage at any period of the course, and are, in fact, introduced into the lower classes of the two schools which begin with the sixth class.

Considering the studies of the five upper classes of the three schools, and omitting the voluntary exercises, there are devoted to the ancient languages, in the first courses noted in the table, eighty-one hours, in the second, fifty-seven hours, in the third, ninety-five hours. To the modern languages in the first, nineteen hours, in the second, thirty hours, and in the third, sixteen hours. To both ancient and modern languages, in the first, one hundred hours, in the second, eighty-seven hours, and in the third, one hundred and eleven hours; showing that, notwithstanding the minor variations of opinion as to the relative importance of the modern and ancient languages, the average of attention to the entire department of language approaches to an equality in all. The time devoted to the mathematical and natural sciences, including physics and chemistry in the courses given in the first column, is twenty-six hours, in that of the second, forty-nine hours, and in that of the third, twenty-one hours. To the religious instruction, geography, history, and philosophy, ranked with mathematics and physics as sciences, in the courses of the first column, twenty-eight hours, of the second, twenty-one hours,

and of the third, twenty-five hours. To the whole group of sciences in the first, fifty-four hours, in the second, seventy hours, in the third, forty-six hours. In all the classes of the arts, the time devoted to the courses in the Frederick William and real gymnasia, compared with that given to the same courses at Pforta, is, in the first, twenty-seven hours, in the second, twenty hours, in the third, seventeen hours. The total number of hours of study thus compared is nearly the same, being for the first mentioned school, one hundred and eighty-one, for the second, one hundred and seventy-seven, and for the third, one hundred and seventy-four.

It is plain, from inspecting the number of hours of recitation in the different classes of these schools, that they have not been arranged with any reference to the supposed capability of the pupils to receive instruction of one kind more appropriately at a particular age than at another, but with reference to a nearly equal distribution of the whole time allotted to each particular study, in as nearly equal proportions among the different classes as the requirements of preliminary information for the particular branch, and other points of detail, would permit. It may well be doubted whether this is not a defect, but the point is a delicate one to touch theoretically. As far as I have seen the trial made elsewhere, there is, however, a real advantage in such a distribution, whether we have regard to general intellectual culture, or to the most advantageous mode of communicating positive knowledge.

By comparing the number of hours of instruction in the different classes in these three schools with that recommended in the ministerial circular already presented,* it will be found that, in general, the Frederick William gymnasium presents the nearest coincidence of arrangement in its courses. This is true in relation to the Latin, the Greek, the German, the French, the religious instruction, the mathematics, the physics, and the philosophy. The time devoted to the historical and geographical courses at Pforta approaches the nearest to the new model. While the time devoted to natural history and to writing,

* Page 458 of this Report.

drawing and vocal music, in the real gymnasium, is almost precisely equal to that recommended: we may infer from this that experience has shown no considerable want of balance in the studies as now arranged at the Frederick William gymnasium, but that, notwithstanding, an increased attention to natural history and to philosophy is judged advisable. It should be remarked, that the attention to be paid to the French language, according to the new scheme, is much less than according to the plan of either of these gymnasia, the study being confined to the three upper classes and their divisions. If this change should be introduced generally, the result must be, in time, that the French will cease to be generally spoken by liberally educated persons in Prussia. The recommendation proceeds, most probably, from political considerations, which it would be out of place here to do more than merely to suggest. I cannot believe that it depends upon a true want of intrinsic usefulness in the acquisition.

### GENERAL REMARKS ON SECONDARY INSTRUCTION, PREPARATORY TO THE PROFESSIONS.

The variable nature of the circumstances bearing upon the secondary instruction of different countries, renders comparison, except in a general way, very difficult. A single example will serve to illustrate this position. The school into which the pupil is to be introduced, preparatory to professional life, though called by the same name, is essentially different in different countries. An English university, in its objects and aims, and consequently in its organization, is very unlike the faculties of France, or a university of Germany, and the secondary schools, which serve as feeders to these institutions, must be modified accordingly.

There are, however, high general purposes to be served in the mental training of youth, on the more or less successful modes of applying which, comparison will throw the light of experience. If a satisfactory intellectual education at Berlin requires the study of Latin, Greek, the vernacular, French, geography and history, mathematics, physics, natural history, and intellectual

philosophy, it is not likely that the same can be accomplished elsewhere by the study of Latin, Greek, geography, a small portion of history, and less of arithmetic and geometry.* If it is possible at Berlin to devote sufficient time to the branches enumerated in the Prussian programme, to make them really sources of mental culture and of positive knowledge, consistently with a thorough knowledge of the classics, it must be so in the same interval of time any where else. Hence there need be no apprehension even on the part of those who consider the attainment of classical knowledge for itself as the great end of instruction, in regard to the effects of an increased attention to other branches of knowledge, unless it can be shown that the German youth are inferior in these attainments, which has never, I believe, been even attempted, or unless it can be proved that they are naturally of higher intellectual powers than those of other countries.

To turn the details already given of secondary instruction to account, and to compare, in as brief a manner as possible, the Prussian gymnasia just described with the institutions for secondary instruction in the two other countries, some of the schools of which have been noticed, the Frederick William gymnasium may be assumed as representing an average of the Prussian gymnasia. There being nothing which can be considered as a *system* of secondary instruction in Great Britain, it is only by the comparison of single instances that an appreciation of the whole can be made. This comparison is rendered easy, and, in fact, reduced to ascertaining which of the schools of Great Britain most nearly resembles the Prussian gymnasium, by the detailed comparison already made of the several schools with each other. After completing the course just marked out, it will be my object to compare some of the features of the Prussian and French systems of secondary instruction, and a Prussian gymnasium with a French college. I would gladly have preceded this view by a comparison of the gymnasia of Prussia with those of some of

* See the programme of the Harrow school, pp. 350, 351 of this Report.

the other German states, as Wurtemberg or Bavaria, and Austria, and that of the free town of Frankfort on the Maine, and even, subsequently, have extended the comparison to the Latin schools of Holland, and the colleges or gymnasia of Switzerland, but it would have been in vain to attempt this within the limits of the present Report. In the documents and notes which my tour has furnished, I have ample means for such a purpose, which I may at a future day accomplish, as it would throw the light of further experience on our operations.

Among the British institutions which I have described in more or less detail, no one approaches so closely to the Prussian gymnasia, in the outline of its course of studies, and in the time devoted to the different subjects, as the Hill-street Institution of Edinburgh. There are, it is true, strongly marked differences in the two courses, but not so great as between those of the Prussian institutions and of the more exclusively classical schools. It is certainly remarkable, that what is an established system in one country, should by many be considered as an innovation of doubtful expediency in the other. The pupils enter and leave the Scottish institution earlier than the Prussian, hence the courses must be forced, and the mature knowledge, the regular and progressive development which marks the pupils of the Prussian schools, cannot be acquired. The crowning courses of language are wanting, and the mathematics and physics are imperfectly learned, in general, from the too early youth of the pupil of the Scottish school. The two years between seventeen and nineteen spent in a Prussian gymnasium, are invaluable to both master and pupil. It must be observed, also, that one being a private school, and of recent establishment, labours under disadvantages in regard to procuring teachers which the public, long tried, and assured existence of the other, prevents their being subject to. With the advantages which the English grammar schools have in the age of their pupils, and the duration of their courses, over any private school, the introduction of the branches of knowledge considered essential in Germany, might be effected with comparative ease in them. I am convinced that, as soon as teachers were trained up for

the change, and the pupils had become accustomed to it, the results would be most striking, and I do not consider the partial failure of the attempt, to which I have alluded, at Rugby, as at all conclusive. An experienced teacher in England made the remark to me, as a justification of the tendency to exclusively classical instruction in the secondary schools of Great Britain, that the nation having naturally a disposition to advance in material subjects, should be drawn away from them, and towards the ideal, by education; this was equivalent to saying that a nation should be educated against its nature and tendencies, which remark, it seems to me, need only be applied to the individuals forming the nation to show its fallacy.

In support of my inference as to the character of the classical instruction in the Prussian schools, it may not be amiss to observe, that if the nearly exclusively classical example which I have given in Harrow school, be compared as to its course of studies in classics with a Prussian gymnasium, it will be found that, except in the article of Greek and Latin verse, which is in little or no repute in most of the gymnasia, the classical studies of these latter are fully equivalent to those of the former. I take it for granted that at Harrow the course is thoroughly acquired, and know that such is really the case in the gymnasia which I visited.

In regard to the methods of the British and Prussian schools in general, the recitation upon a lesson which has been studied from a text-book out of the school, used in the former, tends to foster habits of self-reliance, while that of mingling much oral instruction with the recitations used in the latter, renders the instruction more interesting to the pupils. When the latter method is employed, much less artificial stimulus from hope of reward or fear of punishment is necessary, and, if I may be permitted to judge from the examples which came under my notice in both countries, there is, on the average, more exertion on the part of a class in Prussia than in Great Britain. The prizes held out at the English grammar schools, in the way of scholarships at the universities, to those who distinguish themselves especially, insure a great amount of

exertion on the part of young men of talent, whose subsequent success is appealed to as an evidence of the soundness of the system of instruction, with which it has little or nothing to do. The students find a similar stimulus at the university; a scholarship may, if the time be duly improved, lead to a fellowship, and thus to an honourable provision for life. With such strong motives to great individual exertion, a youth of talent might succeed in educating himself even without aid, or were the school system ever so bad.

In relation to the discipline in the similar secondary schools of Prussia and Great Britain, I would venture the remark, that in the former, it is generally much more advanced in its method, motives, and results, than in the latter. There are, of course, exceptions to this remark. The kind of relation existing habitually, especially in boarding-gymnasia, between the pupil and the teacher, in Prussia, is not unknown in Great Britain, but is an exception, and not the rule. In this respect, no doubt, a change is taking place, which will accelerate as it advances, and ultimately the principle will prevail, that the best interest of both pupil and teacher is to be found in the cultivation of mutual regard.

The organization of the systems of public instruction in Prussia and in France propagates a central influence through all parts of each, but by different means. Theoretically, the university of France is an empire within itself, with the grand master, actually the minister of public instruction, as the head, assisted by the university council. The academies, presided over by their rectors and councils, constitute the divisions of this empire. The execution of the university law, as regards the establishments of secondary instruction, is vested directly in the governments of the academies, who legislate merely in certain matters of detail. The minister of public instruction is also the central authority in Prussia, but the legislative, as well as the executive power, belong to the school-board emanating from the consistory of each province. It is true, that general laws made by the central authority cannot be contravened, but the very general nature of these laws leaves much for

regulation by the local authorities, as has been seen in the diverse plans of the different gymnasia which have been presented in this Report.

The institutions introductory to the universities may, according to law, in either country, be public or private; but in Prussia, the private institutions have been obliterated by the public ones, and in France, are held in a miserable state of dependance upon them. Great efforts have been made, and are making, in the latter country, to free private secondary instruction from its trammels, and to enable it so far to compete with public instruction, as to keep this latter in a sound state. There are two grades of public institutions in France, namely, the royal and communal colleges, and only one in Prussia, the gymnasia; the former plan leading, according to the best authorities, to the recognition of establishments entirely incompetent to fulfil the objects of this kind of instruction.

The arrangement of academic degrees in Prussia and in France differs essentially, producing peculiarities in the introductory institutions. The academic grades in the faculty of letters and of sciences, after the lowest grade, or bachelor, are entirely distinct in the university of France. The bachelor of sciences must have a sufficient knowledge of letters to qualify him for the lowest degree in that department, but this degree once taken by a member of the highest class of a college, he need never enter the faculty of letters of the university. The qualifications of the literary man in science, and of the scientific man in letters, are not necessarily so high in the French arrangment as in the Prussian, where there is but one set of degrees for both. The plan of degrees in the university of France has the advantage which the variation allowed in the courses in the Prussian secondary schools supplies, in part, of allowing minds of different complexions to choose their career. As it is not incumbent on the man of science to pursue the course of letters in a faculty, the courses of rhetoric and philosophy would, in general, be lost to him, if they were not placed in the college course: the close study of these branches in the colleges, and their entire omission, or the little attention paid to them in

the gymnasia, are striking differences in the two systems of instruction. The academic degrees of Prussia can only be taken by study in the faculties of the university, of which the secondary schools form no part: the corresponding ones in France are accessible to the youth leaving the colleges.

The examinations, which in Prussia must precede the matriculation at the university, are made in the gymnasia themselves, but under the direction of a special committee, while those for the degrees obtainable on leaving a French college are made in the university itself, and entirely by its authorities. The Prussian examinations are conducted in such a way as to render the system of manuals, by which pupils may be worked up to the precise minimum of attainment, almost impossible. The candidates are known to at least a part of the examiners, their former teachers, and their attainments have been accurately ascertained by them in the class-rooms, before coming to this test. The actual examining bodies having, in general, only the pupils of one gymnasium before them, are physically able to make the examination a thorough one. On the contrary, the examination for degrees in France, corresponding to those for the matriculation certificate in Prussia, are made in the university, by persons who are usually strangers to the pupils and their attainments, who have the arduous task of conducting the examination of all the candidates, and who are from these causes reduced to the necessity of rendering the examination less thorough, and more formal, and hence of allowing the opportunity for superficial preparation by manuals. The mode adopted in Prussia would undoubtedly give the public institutions a great advantage over private ones, did any such exist as independent establishments.

The use of written examinations in mathematics is adopted in the Prussian system, and not in the French, and with an originally strong prepossession in favour of the oral method. I now believe, from the facts which inquiry has brought before me, that the written form is a most valuable one, and that the two must be combined to give a thorough examination.

The subjects of secondary instruction in France and Prussia

are essentially the same, but the manner of introducing them differs in most important particulars. The branches taught in a Prussian gymnasium are all obligatory; only the degree of study in some minor ones is left to the student, and the Hebrew language is reserved for those who intend to study theology; the Latin, Greek, German, French, religious instruction, geography, history, mathematics, physics, natural history, writing, drawing, and vocal music, are all studies to be regularly followed. While these branches are equally component parts of the course of the French colleges, with the exception of vocal music, and with the addition of chemistry, the modern foreign language, drawing, and writing, do not enter into the regular course, but are voluntary, being, however, furnished at the expense of the college. The branches which are not thus furnished can hardly be considered as parts of the instruction, being, as it were, merely tolerated.

The manner in which the same materials of instruction are combined in the programme of a French college and of a German gymnasium is so different, that it appears like attempting to compare things not homogeneous with each other, to bring them together for such a purpose. A glance at the arrangements of any one class in the two cases will show better what I mean than any description of this peculiarity. The German programme appears to have been carefully studied, the proportion of its parts to have been carefully elaborated, the arrangements as to order of study and time of study to have been carefully considered, and the whole presents a better matured and more finished system than that of the French college. It does not appear in the recent annals of this kind of instruction in Prussia, to have been doubtful whether letters and science shall be taught simultaneously or successively, or whether natural history shall be taught in the beginning, middle, or end of the course. The entire arrangement appears to me to be more compact and better ordered. It will not require a lengthened discussion to substantiate these views; attention need be called only to a few points in illustration of them. The Prussian system lays down for the regular studies thirty to thirty-two hours

per week for each class; the French includes but twenty-two hours. If from the thirty-two hours be taken the time allotted to studies considered voluntary in a French college, namely, six hours per week, the remainder, twenty-six hours, will still exceed by four hours the time occupied in the college recitations or lectures. The greater number of hours thus occupied is a real advantage in favour of the Prussian schools, since experience shows that thirty-two hours per week may be devoted to recitation, and the private study requisite for preparation be made by the student, without injury to his health. It cannot be doubted, from this comparison, that the branches composing the course of a gymnasium are more closely examined than those of a college. The details of the distribution of time in the separate classes confirm this deduction; for example, the time occupied per week by Latin, Greek, and German, in the upper third class of a Prussian gymnasium, is eighteen hours, and in the lower third and upper second class, each, seventeen hours, while in the parallel classes of a French college, in Latin, Greek, and French, but fourteen hours per week are employed. Further, the classical course is dropped entirely after the rhetoric class in the college, while in the gymnasium it extends to the close of the student's career. In regard to the scientific courses of the French colleges, the following points appear particularly worthy of notice. No instruction is given in mathematics higher than arithmetic, except two hours a week of geometry in the third class, until the pupil has reached the second class, in which, if he entered college at nine years of age, he arrives in his sixteenth year; and then all that he learns higher than this, if he follow the career of letters, is compressed into two years. Physics and chemistry for the student in this same career are taught in two lessons per week in the philosophy class. Natural history is thrown into the course of the sixth and fifth classes. A comparison of these defective arrangements with the regular instruction of the same branches, in their appropriate places in a Prussian gymnasium, fully justify the remarks with which this paragraph commenced. Having attended the examination for the degree of bachelor of sciences

at Paris, and heard recitations in the Prussian gymnasia, I am satisfied that the conclusions in regard to the superiority of the Prussian instruction in science are entirely just. The subject of religious instruction is one of such peculiar delicacy, that I am most happy to be able to submit the views of a high authority in public instruction in France, instead of my own, in regard to it, merely observing that I coincide, on this point, entirely in opinion with the authority to which I refer. M. Cousin says:—"There is no class in the Prussian gymnasium which has not a course of religious instruction, as it has of classical or of mathematical instruction. I have before said, and now repeat, that worship, with its ceremonies, can never be sufficient for young men who reflect, and who are imbued with the spirit of the times. A true religious instruction is indispensable, and no subject is better adapted to a regular, full, and varied instruction than Christianity, with a history which goes back to the beginning of the world, and is connected with all the great events in that of the human race, with its dogmas, which breathe a sublime metaphysics, its morality, which combines severity with indulgence, with its general literary monuments, from Genesis to the universal history."* Such an instruction M. Cousin demands for the colleges of his country, declaring that, though established by law, it does not now exist in them. The courses of rhetoric and philosophy, to which a considerable portion of time is given for the last two years of the student of letters, and an introduction to which begins even in the second class, are the chief ornaments of the course of the French colleges, and the sacrifices required by their introduction are amply compensated by their effect. The Prussian system postpones these courses to the university period, and requires every student who wishes to matriculate in other faculties, to go through them. The bachelor of letters, on leaving a French college, may begin at once the study of theology or of law, and the bachelor of sciences that of medicine. The German

* Cousin. Memoire sur l'instruction secondaire dans le royaume de Prusse. Paris, 1837, p. 143.

student must pass through the faculty of philosophy before he can begin the study of either of these professions. In regard to modern languages, the new recommendations for the Prussian gymnasia appear to me to place the French on a worse footing than before, but still a better one than that occupied by English and German in the French colleges. I cannot help hoping that this movement will not be followed up, and that the reasons for retaining the modern languages, as parts of a liberal education, will be found too strong to admit of their being so easily disposed of as appears to be assumed in the circular from the Prussian ministry, which does not appear to have put forth its strength upon this question.

The methods of instruction in the French colleges, in the lower classes, resemble those of the English schools, with the advantage, that the pupils have the directors of studies to aid them when necessary. There are lectures, as well as recitations, in the higher classes, as in the gymnasia. In both the French and Prussian institutions there is a want of apparatus for illustration. In the courses of physics and natural history, it having once been determined that such instruction is essential, the implements necessary to teach to the best advantage should not be left wanting.

The government of the French colleges differs essentially from that of the boarding-gymnasia of Prussia. The question, whether it is advantageous to establish a boarding system in the midst of the residences of the parents of pupils, as in France, or to establish day-schools, as the Pussian gymnasia, is one that depends much upon national manners. My own convictions are, in the general, in favour of the Prussian system in this respect, and of encouraging the means of strengthening domestic ties, by leaving youth under parental control. The chief officer of the Prussian gymnasia, boarding as well as others, the director, or rector, is a teacher as well as a governor, while the provisor of the French college does not teach. The former arrangement has the advantage of bringing the director into contact with the pupils more closely; the latter allows a more thorough superintendence of instruction, discipline, and police.

When the number of pupils is not very great, the former arrangement is, I believe, the more advantageous. It is, however, a matter almost of necessity, in institutions having such a numerous body of students as the Parisian colleges in general, that the presiding officer should have no other charge than that of superintendence, and it may further be desirable that he should be assisted by a censor, the second officer of the French college. There are no equivalent officers in the boarding-gymnasia of Prussia to the directors of studies, who have charge of the pupils during the study hours in the French colleges. One of the teachers, as at Schulpforta, takes a weekly turn to superintend the pupils, dwelling near them during the period of duty. This arrangement answers well, with the aid of the pupils selected to superintend sections, for a small number of students, but would be entirely inefficient in a Parisian college. The directors of studies are most important officers in these institutions, especially as they are required to be competent to teach as well as to superintend, and the selection of them from among the adjuncts (agrégés), who are expectants of promotion, is an excellent arrangement. The professors and teachers in the French colleges, in Paris, are on the footing of the instructors in the Prussian day-gymnasia, living out of the institution, and having nothing to do with the discipline out of the recitation hours. This system has, no doubt, advantages, but the controlling disadvantage is the diminution of the moral influence of the teacher over the pupil. It is especially necessary, in establishments where young men are crowded together, and separated from the wholesome restraints of home and domestic discipline, to foster, by all means, the moral influence of the teacher, and to bring the pupil as near to him as possible. This is not done when the professor merely meets the student in the recitation or lecture-room for a few hours every day, and during the remainder of the time has no active care of, or interest in, his welfare. The existence of directors of studies is by no means incompatible with such a supervision by the professors. In both the French and Prussian institutions the highest officer, the provisor or

director, administers the discipline, and the tone of it depends upon his character. The superintendence by pupils of sections of their fellows, is not allowed to degenerate into the "fagging system," the pupils being selected for the office, and constantly superintended by the teachers. From the location of the Parisian colleges, the details of their arrangements are not comparable with those of a Prussian country gymnasium.

The inducements to study are of a much more exciting kind in the French colleges than in the Prussian gymnasia. Both have a system of places in the class, differently arranged for the higher and lower classes, and both grade the pupils on leaving the institution. But in the French college there is a most powerful, I may say an excessive, stimulus from prizes, not only in the establishment, but from a comparison with others, and public attention is called to the successful youth, who is rewarded under the notice of the community of scholars, the university, and the public at large: his career depends upon successful competition from one step to another, until he has reached the higher places of society, and his selfish feelings are constantly and directly stimulated. It is more easy to feel than to describe the influence of the minute particulars which constitute public scholastic sentiment, and which produce a very different atmosphere in the two classes of institutions. Emulation is not discouraged in the gymnasia, and intellectual and moral qualities are held in due esteem; but the development of mind is controlled by that of the moral sentiments, and there is in consequence less of strong personal rivalry than in the colleges. The reciprocal action of national character and education is so powerful, that it would be rash, without a much deeper examination than I can profess to have made, to say how far these differences are effects or causes. It is my duty to note them, and to comment freely upon them for our advantage, leaving the judgment to more competent minds.

With all the stimulus of the French colleges, there is one precaution neglected, which strikes at the root of the competency of the mass of students. The law in regard to stated half-yearly examinations is not executed. Incompetent students, unless

grossly so, pass regularly forward with the competent into the higher classes. There is one period, in passing from the fourth to the third class, at which an examination has been applied, and with advantage; but there are three classes before the fourth, through which the students pass as a matter of course. It is obvious, that with so loose a system, the examinations for degrees must be relaxed, or the examiners take upon themselves a heavy responsibility. The regular examinations of the Prussian gymnasia afford the means of discovering the incompetent year by year, a result favourable both to the youths who are thus thrown into other careers, and to those who remain connected with these institutions.

The means for supplying teachers for secondary instruction must, I think, be admitted, so far as the normal school is concerned, to be superior in France to those of Prussia. The central normal school of Paris is certainly more advantageous than the detached philological and pedagogical seminaries of Prussia. This school is kept in vigour by competition from without, which, while it opens the career of instruction to those young men who may not be able from circumstances to avail themselves of the advantages of the normal school, reacts favourably upon the school itself. The candidate for the normal school must be at least a bachelor of letters, and must compete for his place. After going through its courses, he again passes through the severe ordeal of a competition for the place of adjunct (agrégé), in which he may be attached to some particular institution or not. In this place the powers of a young man are developed, and from it, if meritorious, he may rise in his career. The equivalent plan in Prussia secures competent instructors, but does not offer to them the advantages of the normal school.

In both France and Prussia, teachers are exempted from regular military service, and are entitled to retiring pensions in proportion to their services.*

* I do not speak of the relative compensation of the officers of colleges and gymnasia, because, as before stated, they are most fallacious tests, unless examined in connexion with a variety of statistical matters, which make the unit of compensation of different values in different countries.

## DIVISION SECOND.

### SECONDARY INSTRUCTION IN PRUSSIA.

In continuation, I propose to give an account of two schools at Berlin, which furnish secondary instruction of a kind intended to prepare youth for professions not included in the list of those called learned, and for other occupations requiring a considerable intellectual training, with the acquisition of special preparatory knowledge.

### ROYAL REAL SCHOOL OF BERLIN.

The first of these, in point of date, is the Royal Real School of Berlin. It was founded as early as 1747, by Counsellor Hecker, whose name has already been used in connexion with some of the education reforms by Frederick the Great. At the period in which this school was founded, Latin and Greek were the exclusive objects of study in the learned schools, and the avowed purpose of this establishment was that "not mere words should be taught to the pupils, but realities, explanations being made to them from nature, from models and plans, and of subjects calculated to be useful in after life." Hence the school was called a "real school," and preserves this name, indicative of the great educational reform which it was intended to promote, and the success of which has been, though slow, most certain.

The successor of Hecker, in 1769, divided this flourishing school into three departments, the pedagogium, or learned school, the school of arts, and the German school: the whole establishment still retaining the title of real school. The first named department was subsequently separated from the others, constituting the Frederick William gymnasium; the school of arts, and the German, or elementary school, remain combined under the title of the royal real school. The same director, however, still presides over the gymnasium and the real school.

The question has been much agitated, whether the modern

languages should be considered in these schools as the substitutes for the ancient in intellectual education, or whether mathematics and its kindred branches should be regarded in this light. Whether the original principle of the "realities" on which the schools were founded, was to be adhered to, or the still older of verbal knowledge, only with a change of languages, to be substituted for it. In this school the languages will be found at present to occupy a large share of attention, while in the similar institution, a description of which follows this, the sciences have the preponderance.

In the royal real school the branches of instruction are—religion, Latin, French, English, German, physics, natural history, chemistry, history, geography, drawing, writing, and vocal music. The Latin is retained as practically useful in some brances of trade, as in pharmacy, as aiding in the nomenclature of natural history, and as preventing a separation in the classes of this school and that of the gymnasium, which would debar the pupils from passing from the former to the latter in the upper classes. It must be admitted that, for all purposes but the last, it occupies an unnecessary degree of attention, especially in the middle classes.

The following table shows the distribution of time among the courses. There are seven classes in numerical order, but ten, in fact, the third, fourth, and fifth being divided into two; the lower fourth is again, on account of its numbers, subdivided into two parallel sections. Of these, the seventh, sixth, and fifth are elementary classes, the pupils entering the seventh at between five and seven years of age. In the annexed table the number of hours of recitation per week of each class in the several subjects is stated, and the vertical column separating the elementary classes from the others, contains the sum of the hours devoted to each branch in the higher classes, excluding the lower section of the fourth class, which has not a distinct course from that of the other division.

Table, showing the number of hours of recitation per week, of each class, in the subjects taught in the Royal Real School of Berlin.

| SUBJECTS OF STUDY. | First Class. | Second Class. | Third Class, A. | Third Class, B. | Fourth Class, A. | Fourth Class, B. I. | Fourth Class, B. II. | Sum of the hours in the seven upper classes. | Fifth Class, A. | Fifth Class, B. | Sixth Class. | Seventh Class. | Proportion of other studies to German in the Royal Real School. | Proportion of other studies to German in the First six classes of the Fred'k. Wm. Gymn. | Proportion of other studies to German in all the classes of the Fred'k. Wm. Gymn. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Latin, | 4 | 4 | 4 | 5 | 6 | 5 | 6 | 28 | | | | | 1.4 | 2.9 | 3.7 |
| French, | 4 | 4 | 4 | 3 | 3 | 4 | 4 | 22 | 4 | 5 | | | 1.1 | 0.7 | 0.9 |
| English, | 2 | 2 | 2 | | | | | 6 | | | | | 0.3 | | |
| German, | 3 | 3 | 3 | 4 | 3 | 4 | 4 | 20 | 8 | 8 | 10 | 10 | 1.0 | 0.8 | 1.0 |
| Religion, | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 12 | 2 | 3 | 2 | 2 | 0.6 | 0.6 | 0.8 |
| Mathematics,* | 6 | 6 | 5 | 6 | 7 | 6 | 4 | 35 | 4 | 3 | 6 | 6 | 1.7 | 1.1 | 1.6 |
| Natural History, | 3 | 2 | 2 | 2 | | | | 9 | | | | | 0.4 | 0.1† | 0.1 |
| Physics, | 2 | 2 | 2 | 2 | | | | 8 | | | | | 0.4 | 0.2† | 0.2 |
| Chemistry, | 2 | 2 | 2 | 2 | | | | 8 | | | | | 0.4 | | |
| Geography, | | | | 3 | 3 | 3 | 3 | 9 | 2 | 2 | 2 | | 0.4 | 0.5 | 0.5 |
| History, | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 15 | 2 | 2 | 2 | | 0.7 | 0.3 | 0.7 |
| Drawing, | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 12 | | | | | 0.6 | 0.4 | 0.4 |
| Writing, | | | | | 2 | 2 | 2 | 4 | 4 | 4 | 6 | 8 | 0.2 | 0.3 | 0.3 |
| Singing, | 2 | 4 | 3 | 2 | 2 | 2 | 2 | 15 | | | | | 0.7 | 0.6 | 0.6 |
| Total, | 36 | 36 | 35 | 35 | 32 | 32 | 32 | | 26 | 26 | 26 | 26 | | | |

* Including arithmetic, geometry, algebra, and trigonometry.

† These numbers include the entire course.

Pupils who enter this school between five and seven years of age, and go regularly through the elementary classes, are prepared at ten to pass to its higher classes, or to enter the lowest of the gymnasium. It is thus after the fifth class that a comparison of the two institutions must begin. The studies of the real school proper, and of the gymnasium, have exactly the same elementary basis, and they remain so far parallel to each other that a pupil, by taking extra instruction in Greek, may pass from the lower third class of the former to the lower third of the latter. This fact alone is sufficient to show that the real schools must be institutions for secondary instruction, since their pupils have yet three classes to pass through after reaching the point just referred to. It serves also to separate the real schools from the higher burgher schools, since the extreme limit of the courses of the latter, with the same assistance in regard to Greek, only enables the pupil to reach the lower third class of the gymnasium. In general, a pupil would terminate his studies in the real school at between sixteen and eighteen years of age. The difference between the subjects of instruction in the real school and the Frederick William gymnasium, consists in the omission in the former of Greek, Hebrew, and philosophy, and the introduction of English and chemistry. The relative proportions of time occupied in the same subjects in the two schools, will be seen by comparing the two columns next on the right of the numbers for the seventh class, in the table just given. The first of these columns contains the proportion of the number of hours per week devoted to the different subjects in the six classes of the real school above the elementary, the number of hours devoted to the German being taken as unity; and the second, the same proportion for six classes of the gymnasium, beginning with the lowest, the same number of hours being taken as the unit, as in the preceding column. To bring the natural history and physics into comparison, I have taken the numbers for the upper classes of the gymnasium in which these branches are taught. Of the courses common to the two schools, those to which nearly equal attention is paid in both

institutions are—the religious instruction, the German, geography and history, writing, and vocal music. The French, mathematics, physics, and natural history, predominate in the real school, the Latin in the gymnasium. The effect of reckoning the first, second, and upper third classes of the gymnasium does not materially change the proportionate numbers for the courses which are common to the two schools, except as to Latin and mathematics. To show this, the column on the extreme right of the table is introduced, containing the proportions for all the nine classes of the Frederick William gymnasium.

There were, in 1838, five hundred and ten pupils in this real school, under the charge of fourteen regular or class masters, teaching several subjects in the lower classes, and of six other teachers. Each of the eleven class divisions thus averages about forty-six, who are under the charge of one teacher at a time.

The elementary course in the real school is similar to that described in the burgher schools, beginning with the phonic method of reading, the explanations of all the words and sentences being required at the same time that the mechanical part of reading is learned. Written and mental arithmetic are taught together in the lowest class. The religious instruction consists of Bible stories adapted to their age; and verses are committed to improve the memory of words. The exercises of induction are practised, but in a way not equal to that with objects, introduced by Dr. Mayo in England. Some of the pupils are able to enter the gymnasium after going through the two lowest classes.

In regard to the real classes proper, as I propose to enter into the particulars of the course of study of the trade school, I shall here merely make a few remarks upon two of the branches studied in them, namely, French and drawing. The remarks in regard to the French will serve to show how great a latitude a teacher is allowed in the arrangement of his methods, the result of which is, that those who have talent are interested in improving their art by observation and experiment. The French teacher to

whom I allude* had been able to secure the speaking, as well as the reading, of French from his pupils. From the very beginning of the course this had been a point attended to, and translation from French into German had been accompanied by that from German into French: the conversation on the business of the class-room was in French. The pupils were exercised especially in the idioms of the language in short extempore sentences, and the differences of structure of the French and their own language were often brought before them, and the difficulties resulting from them anticipated. Difficult words and sentences were noted by the pupils. Declamation was practised to encourage a habit of distinct and deliberate speaking, and to secure a correct pronunciation. The chief burthen of the instruction was oral. Without the stimulus of change of places, the classes under this gentleman's instruction were entirely alive to the instruction, and apparently earnestly engaged in the performance of a duty which interested them. If such methods should fail in communicating a greater amount of knowledge than less lively ones, which I believe cannot be the case, they will serve, at least, to break down habits of intellectual sloth and to promote mental activity, the great aim of intellectual education.

The drawing department of this school is superintended by a teacher who has introduced a new method of instruction, particularly adapted to the purpose for which drawing is to be applied in common life and in the arts; a method which is found to enable a much larger proportion of the pupils to make adequate progress than the ordinary one of copying from drawings.† In this method the pupil begins by drawing from simple geometrical forms, those selected being obtained from models in wood or plaster, of a square pillar,‡ a niche, and a low cylinder (the form of a mill-stone). The square pillar separates

* Mr. Herrmann.

† Mr. Peter Schmidt, who now, in his old age, has received from the government a pension in return for the introduction of his method, and the instruction in it of a certain number of teachers.

‡ Seven and a-half inches high, and one inch and a-half in its square section.

in joints, affording a cube and parallelopipeds of different heights. The hemisphere which caps the niche may be removed, leaving the concave surface of its cylindrical part. The exercises of the pupil run thus:—First, to place upon a board, or upon his paper or slate, a point vertically above another, or so that the lines joining the two shall be parallel to the right or left hand edge of the board, paper, or slate. Second, to join them. Third, to place a point horizontally from the second, and at a distance equal to that between the first and second points. Fourth, to place one vertically over the third, and at a distance equal to that below the first, and to join the third and fourth. The first and fourth being then joined, a square is formed. After practice in this, the simple elevation of the cube is drawn. Next, a perspective, by the use of a small frame and silk threads, such as is common in teaching the elements of this subject, and by means of which the pupil acquires readily a knowledge of the practice. The drawing of lines in various positions, and with various proportions, terminates this division of the subject. The niche and cylinder afford a similarly graduated series of lessons on the drawing of curved lines, and the drawing of lines of different degrees of strength and of shadows is introduced. This is accompanied with some of the more simple rules of shadow and shade. More difficult exercises of perspective follow from natural objects and from works of art or mechanism, according to the direction to be given to the pupil's attainments and the amount of taste which he displays. This method of teaching has been introduced quite generally in Prussia, and with the best results as to the formation of accuracy of eye and of hand.

## CITY TRADE SCHOOL OF BERLIN.

This school was founded to give a more appropriate education for the mechanic arts and higher trades than can be had through the courses of classical schools. It is a great point gained when the principle is admitted, that different kinds of education are suited to different objects in life; and such an

admission belongs to an advanced stage of education. As a consequence of a general sentiment of this kind, numerous schools for the appropriate instruction of those not intended for the learned professions grow up by the side of the others. The youth is thus secured a suitable education, no matter what may be his intended calling, and is not forced to accept a training necessarily imperfect, from the time which he can devote to it, and furnishing him with but little of the knowledge which he requires in his pursuits. This sentiment prevails extensively in Prussia, and, indeed, throughout Germany, and as a consequence of it, there are better opportunities for the instruction of young men, not intended for the learned professions, than in any other part of Europe.

The city of Berlin is the patron of the trade school which I am about to notice, as the king is of the real school, already spoken of. Its stability is thus secured, and the means of furnishing it with the necessary materials for instruction are liberally provided.* The trade school is a day-school, and consists of five classes, of which the lowest is on the same grade as to age and qualification at admission as the fourth class of a gymnasium. It is assumed that at twelve years of age it will have been decided whether a youth is to enter one of the learned professions, or to follow a mechanical employment, or to engage in trade, but the higher classes are not closed against pupils. Of the five classes, four are considered necessary or desirable for certain pursuits, and the whole five for others; the courses of all but the first class last one year, that of the first, two years—a youth leaving the school at from sixteen to seventeen or eighteen years of age, according to circumstances. During the year 1836–7, the number of pupils in the several classes were—in the first class, eleven; in the second, twenty-nine; in the upper third, forty-three; in the lower third, fifty-two; in the fourth, fifty; total one

* The present director of this school, Mr. Klöden, was formerly director of the higher burgher school at Potsdam, and is one of the most distinguished teachers in his line in Prussia.

hundred and eighty-five; from which numbers it appears that a considerable proportion of the pupils leave the school without entering the first class. The number of teachers is nineteen, five being regular or class teachers, and fourteen assistants. The director gives instruction.

The following list of the callings to which pupils from this school have gone on leaving it, will show that it is really what it professes to be, a school for the instruction of those who intend to follow occupations connected with "commerce, the useful arts, higher trades, building, mining, forestry, agriculture, and military life;" and further, that its advantages are appreciated by the class for whom it is intended. The list includes the pupils who have left the school from the first and second classes in the years 1830, 1832, 1833, and 1837. From the first class, two teachers, five architects, one chemist, twenty-six merchants, one machinist, two calico-printers, two glass-workers, one cloth-manufacturer, one silk-manufacturer, one miner, thirteen agriculturalists, eight apothecaries, two gardeners, one painter, one mason, one carpenter, one tanner, one miller, one baker, one potter, one saddler, one soap-boiler, one cabinet-maker, two soldiers, one musician, five to public offices, one to the trade institution, six to a gymnasium. From the second class, forty-one merchants, one teacher, one chemist, one machinist, one ship-carpenter, nine agriculturalists, one sugar-refiner, three dyers, one tanner, one brewer, two distillers, one miner, two lithographers, one die-sinker, three apothecaries, one dentist, two painters, two gardeners, three masons, five carpenters, one miller, four bakers, one butcher, one to the trade institution, three to public offices, two to a gymnasium, one musician, one veterinary surgeon, one soldier—being ninety from the first class, and ninety-seven from the second, in the period of four years.

In the course of instruction the sciences and kindred branches are made the basis, and the modern languages are employed as auxiliaries, the ancient languages being entirely omitted. The subjects embraced in it are—religious instruction, German,

French, English, geography, history, mathematics, physics, chemistry, technology, natural history, writing, drawing, and vocal music.

The time apportioned to each of these subjects in the five classes will be seen in the following table, which contains besides, a comparison of the time devoted to the different branches in this school, with five classes nearly corresponding to them, of the real school, and the same number of the Frederick William gymnasium. In this comparison the number of hours of religious instruction, which is nearly the same in the three, is assumed as the unit of the proportion. In other respects the table is arranged as the foregoing, and the headings of the several columns indicate the nature of the numbers contained in them.

**Table of the distribution of studies in the City Trade School of Berlin, with a comparison with the Royal Real School and the Frederick William Gymnasium.**

| SUBJECTS OF INSTRUCTION. | No. of hours per week. | | | | | | Proportion of the courses to the religious instruction in the Trade School, as unity. | | |
|---|---|---|---|---|---|---|---|---|---|
| | First Class. | Second Class. | Upper Third Class. | Lower Third Class. | Fourth Class. | Total. | In the Trade School. | In five classes of the Real School. | In five classes of the Frederick William Gymnasium. |
| Religion, | 1 | 2 | 2 | 2 | 2 | 9 | 1.0 | 1.1 | 1.1 |
| German, | 3 | 3 | 4 | 4 | 4 | 18 | 2.0 | 1.8 | 1.2 |
| French, | 4 | 4 | 4 | 4 | 4 | 20 | 2.2 | 2.0 | 1.1 |
| English, | 2 | 2 | | | | 4 | 0.4 | 0.7 | |
| Arithmetic, | 3 | 3 | 4 | 4 | 4 | 18 | 2.0 | 3.3 | 2.1 |
| Geometry, | 3 | 3 | 3 | 3 | 2 | 14 | 1.6 | | |
| Geography, | | 2 | 2 | 2 | 2 | 8 | 0.9 | 0.7 | 0.7 |
| History, | 3 | 1 | | | | 4 | 0.4 | 1.4 | 1.1 |
| Natural History, | 2 | 3 | 3 | 3 | 2 | 13 | 1.4 | 1.0 | 0.2* |
| Physics, | 3 | | 2 | 2 | 2 | 9 | 1.0 | 0.9 | 0.4* |
| Chemistry, | | 3 | 2 | 2 | | 7 | 0.8 | 0.9 | |
| Technology, | 4 | | | | | 4 | 0.4 | | |
| Writing, | | | 2 | 2 | 2 | 6 | 0.7 | 0.2 | 0.2 |
| Drawing, | 4 | 4 | 2 | 2 | 2 | 14 | 1.6 | 1.1 | 0.4 |
| Vocal Music, | 2 | 2 | 2 | 2 | 2 | 10 | 1.1 | 1.4 | 1.1 |
| Total, | 34 | 32 | 32 | 32 | 28 | | | | |

* The entire course.

The courses of Latin, Greek, Hebrew, and philosophy, of the gymnasium, are replaced in this school by English, chemistry, and technology, with an increased attention to the kindred branches. Thus the French occupies double the time devoted in the parallel classes of the gymnasia; and if the whole of the eight gymnasial classes be reckoned, the proportion will still be as twenty to eighteen in favour of the trade school. Mathematics, in like manner, occupies more time in the trade school, in the parallel classes, in the proportion of 3.6 to 2.1; natural history, in that of 1.4 to 0.2; physics, of 1.0 to 0.4; drawing, of 1.6 to 0.4.

The courses are fully laid down in the following list,* beginning with the studies of the lowest, or fourth class.

FOURTH CLASS.

*Religious Instruction.*† The Gospel according to St. Luke and the Acts of the Apostles explained, with a catechetical development of the truths of religion and ethical applications. Two hours per week.

*German.* Grammatical exercises in writing. Recital of poetical pieces.

*French.* Grammatical exercises. Regular and irregular verbs. Reading from Laurens' Reader. One hour of conversation. Four hours.‡

*Arithmetic.* Mental and written, including proportions and fractions, with the theory of the operations. Four hours.

*Geometry.* Introductory course of forms. Two hours.

*Geography.* Elementary, mathematical, and physical geography. Two hours.

*Natural History.* In the summer term, elements of botany, with excursions. In the winter, the external characters of animals. Two hours.

*Physics.* Introductory instruction. General properties of bodies. Forms of crystals, specific gravity, &c. Two hours.

*Writing.* Two hours.

*Drawing.* Outline drawing and shadows, from models and copy-boards. Two hours.

*Vocal Music.* Two hours.

LOWER THIRD CLASS.

*Religious Instruction.* The Acts of the Apostles and the Epistles read and explained. Two hours.

* Taken from the programme for 1836–7, for which, with other documents mentioned in the Appendix, and a full opportunity to visit this interesting school, I am indebted to director Klöden.

† Roman Catholic pupils are not required to take part in this instruction, which is communicated by a Protestant clergyman.

‡ The same teacher instructs this class to whose course I have referred in the notice of the Royal Real School.

*German.* Grammar, with special reference to orthography and etymology. Written exercises upon narrations made by the teacher. Delivery of poetical pieces. Four hours.

*French.* Translation from French into German, from Gedike's Chrestomathy. Grammar; irregular verbs. Extemporalia, and translations from German into French. Four hours.

*Arithmetic.* Partly abstract, partly practical, from Diesterweg's Instructor. Four hours.

*Geometry.* Determination of angles in triangles and polygons. Equality of triangles. Dependance of angles and sides of triangles. Constructions. Three hours.

*Geography.* Physical description of the parts of the earth, except Europe. Two hours.

*Natural History.* Mineralogy. In summer, botany, the class making excursions for practical exercise. Man. Three hours.

*Physics.* General properties of bodies and solids in particular. Doctrines of heat, and their application to natural phenomena and the arts. Two hours.

*Chemistry.* Introduction. Atmospheric air. Experimental illustrations of chemistry, applied to the arts. Two hours.

*Writing.* Two hours. *Architectural and topographical drawing.* Two hours. *Drawing* by hand, for those who do not take part in the other. Two hours.

*Vocal Music.* Two hours.

### Upper Third Class.

*Religious Instruction.* Christian morals, from Luther's Catechism. Two hours.

*German.* Simple and complex sentences. Compositions on special subjects. Poems explained and committed. Four hours.

*French.* Translation from Gedike's Chrestomathy, oral and in writing. Written translations from Beauvais' Introduction, from German into French. Grammar, examples treated extempore. Four hours.

*Arithmetic.* Properties of numbers. Powers. Roots. Decimal fractions. Practical arithmetic from Diesterweg. Four hours.

*Geometry.* Similar figures. Geometrical proportion. Exercises. Mensuration of rectilinear figures. Three hours.

*Geography.* Physical geography of Europe, and in particular of Germany and Prussia. Two hours.

*Natural History.* Continuation of the mineralogy of the lower third class. Review in outline of zoology and the natural history of man in particular. Botany, with excursions in summer. Three hours.

*Physics.* Electricity and magnetism, with experiments. Two hours.

*Chemistry.* Water and non-metallic bodies, with experiments. Two hours.

*Writing.* Two hours. *Architectural and topographical drawing.* Two hours. Some of the pupils, during this time, are engaged in ornamental drawing.

*Vocal Music.* Two hours.

### Second Class.

*Religious Instruction.* Explanation of the first three Gospels. History of the Christian religion and church, to the Reformation. Two hours.

*German.* Correction of exercises written at home, upon subjects assigned by the teacher. Oral and written exercises. Introduction to the history of German poetry. Three hours.

*French.* Grammar; extemporalia for the application of the rules. Written and oral translations from German into French, from Beauvais' Manual, and vice versa, from Ideler and Nolte's Manual. Four hours.

*English.* Exercises in reading and speaking. Translation into German, from Burkhardt. Dictation. Verbs. Two hours.

*Arithmetic.* Commercial arithmetic. Algebra, to include simple and quadratic equations. Logarithms. Three hours.

*Geometry.* Circles. Analytical and plane trigonometry. Three hours.

*Geography.* The States of Europe, with special reference to their population, manufactures, and commerce. Two hours.

*History.* Principal events of the history of the middle ages and of later times, as an introduction to recent history. One hour.

*Natural History.* Mineralogy. Physiology of plants. Three hours.

*Chemistry.* Metallic bodies and their compounds, with experiments. Three hours.

*Architectural, topographical, and plan drawing.* Drawing with instruments. Introduction to India ink drawing. Beginning of the science of constructions. Two hours.

*Drawing.* From copies, and from plaster and other models. Two hours. This kind of drawing may be learned instead of the above.

*Vocal Music.* Two hours.

### First Class.

*Religious Instruction.* History of the Christian religion and church continued. References to the Bible. One hour.

*German.* History of German literature to recent times. Essays. Exercises of delivery. Three hours.

*French.* Reading from the manual of Büchner and Herrmann, with abstracts. Classic authors read. Review of Grammar. Exercises at home and extemporalia. Free delivery. Correction of exercises. Four hours.

*English.* Syntax, with written and extempore exercises from Burkhardt. Reading of classic authors. Writing of letters. Exercises in speaking.

*Arithmetic.* Algebra. Simple and quadratic equations. Binomial and polynomial theorems. Higher equations. Commercial arithmetic continued. Three hours.

*Geometry.* Plane trigonometry and its applications. Conic sections. Descriptive geometry. Three hours.

*History.* History of the middle ages. Modern history, with special reference to the progress of civilization, of inventions, discoveries, and of commerce and industry. Three hours.

*Natural History.* In summer, botany, the principal families, according to the natural system. In winter, zoology. The pupils are taken, for the purpose of examining specimens, to the Royal Museum.

*Physics.* In summer, optics with experiments. In winter, the system of the world. Three hours.

*Technology.* Chemical and mechanical arts and trades described and illustrated by models. Excursions to visit the principal work-shops. Four hours.

*Architectural and machine drawing.* Two hours. Those pupils who do not take part in this, receive lessons in ornamental drawing from plaster models.

*Vocal Music.* Two hours.

The pupils of this class are, besides, engaged in manipulating in the laboratory of the institution several hours each week.

The courses require a good collection of apparatus and specimens to carry them out, and this school is, in fact, better furnished than any other of its grade which I saw in Prussia, besides which, its collections are on the increase. The facilities for the courses are furnished by a collection of mathematical and physical apparatus, a laboratory, with a tolerably complete chemical apparatus and series of tests, a collection of specimens of the arts and manufactures (or technological collection), a collection of dried plants, and of engravings for the botanical course, with a small garden for the same use, a collection of minerals, a collection of insects, a collection in comparative anatomy, a series of engravings for the drawing course, and of plaster models, a set of maps, and other apparatus for geography, some astronomical instruments, and a library. The pupils are taken, from time to time, to the admirable museum attached to the university of Berlin, for the examination of zoological specimens especially.

That this school is as a preparation for the higher occupations, and for professions not ranking among the learned, the equivalent of the gymnasium is clearly shown by the subjects and scope of its courses, and by the age of its pupils. Some of these occupations require no higher instruction, others that the pupils shall pass to the special schools introductory to them. So, also, many of the pupils of the gymnasia pass at once into active life, others enter the university.

The class of schools to which the two last described belong, are most important in their influence. In many countries, an elementary education is the limit beyond which those intending to enter the lower grades of the occupations enumerated in connexion with the City Trade School of Berlin, do not pass; and if they are inclined to have a better education,

or if intending to embrace a higher occupation, they desire to be better instructed, they must seek instruction in the classical schools. The training of these schools is, however, essentially different from that required by the tradesman and mechanic, the verbal character of the instruction is not calculated to produce the habits of mind in which he should be brought up, and the knowledge which is made the basis of mental training is not that which he has chiefly occasion to use. Besides, were the course ever so well adapted to his object, the time at which he must leave school only permits him to follow a part of it, and he is exposed to the serious evils which must flow from being, as it were, but half taught.

In fact, however, he requires a very different school, one in which the subjects of instruction are adapted to his destination, while they give him an adequate intellectual culture; where the character of the instruction will train him to the habits which must, in a very considerable degree, determine his future usefulness; and where the course which he pursues will be thorough, as far as it goes, and will have reached before he leaves the school the standard at which it aims. Such establishments are furnished by the real schools of Germany, and as the wants which gave rise to them there are strongly felt every where, this class of institutions must spread extensively. In Germany they are, as has been seen, no new experiment, but have stood the test of experience, and with various modifications to adapt them to differences of circumstances or of views in education, they are spreading in that country. As they become more diffused, and have employed a greater number of minds in their organization, their plans will, no doubt, be more fully developed.

It is certainly highly creditable to Germany that its "gymnasia," on the one hand, and its "real schools" on the other, offer such excellent models of secondary instruction in its two departments. The toleration which allows these dissimilar establishments to grow up side by side, admitting that each, though good for its object, is not a substitute for the other, belongs to an enlightened state of sentiment in regard to education, and is worthy of the highest commendation.

## FITZTHUM GYMNASIUM AND BLOCHMAN SCHOOL AT DRESDEN.

It is not my intention to go into a description of the secondary instruction in Saxony, but merely to give a brief notice of one of its institutions which ranks among the first in Germany, and which combines within itself a classical and a "real gymnasium," and a preparatory school, or "progymnasium."*

This institution partakes both of a public and private character, being, on the one hand, under the direction of the government authorities as a public school, and on the other, a private foundation of the Fitzthum family. It is also both a boarding and day school.

Pupils are received into the progymnasium at nine or ten years of age, and with the attainments of the elementary period. In this school, which has two classes, they remain until from thirteen to fourteen. Its courses are the following:—Bible history and religion, the German language, the Latin, French, history, arithmetic, knowledge of forms, geography, natural history, drawing, and writing. From the upper class of the progymnasium, the pupils pass to the gymnasium, in which there are four classes. The courses are of religion, Latin, Greek, German language and literature, French, mathematics, history, geography, natural philosophy, natural history, music, and drawing. From the fourth or lowest class of the gymnasium, the pupil who is not intended to go to the university enters the "real gymnasium," or scientific school, in which there are two classes, and the duration of the studies of which is one year less than that of the classical gymnasium. In this the French and English, and the scientific studies, replace the classics, except a portion of Latin, which is still kept up. The

* Dr. Blochman, who established this institution, in 1827, was a collaborator with Pestalozzi in the palmy days of his establishment at Yverdun, and is deeply imbued with his method. Though ill when I visited Dresden, he was most kind and cordial, and opened every part of his interesting school to my examination.

courses consist of religion, German language and literature, Latin, French, English, mathematics, physics, chemistry, natural history, mechanics, history, geography, drawing, and music. The distribution of the time of study in the principal branches agrees entirely with that of the two upper classes of the Royal Real School at Berlin, already described.

The arrangements for the superintendence of the pupils in this institution are, in the main, like those of Pforta. Pupils called inspectors are selected, and superintend their fellows when in the play-ground and at study, and there are two masters always on duty as superintendents. The physical education of the pupils is very well attended to, and the alternations of exercise and study have a very good effect. These alternations will appear by the following order of the day:

The boarders rise at six o'clock, and breakfast ~~at a quarter to seven~~. From a quarter to seven to a quarter to eight, study under the superintendence of the two teachers on duty. *Pupils living out of the house join in this study hour.* Prayers. From eight to a quarter to ten, instruction. Quarter to ten to quarter after ten, play in the garden, and a light second breakfast. Quarter after ten to twelve, instruction. Twelve to one, instruction in instrumental and vocal music, gymnastic exercises, dancing, or free to play in the grounds under the charge of the two superintendents. At one, the day scholars leave the institution. Quarter after one to two, dinner. Two to three, play under charge of the inspectors. Three to quarter of five, instruction. On Wednesday and Saturday, walks. Quarter to five to quarter after five, lunch and recreation. Quarter after five to eight, study under charge and aided by the inspectors. Eight, supper. At nine the younger pupils retire; the older ones study until ten.

The mathematical instruction in this school is continued, even in the higher branches, upon the inductive plan, and is the most effective which I have ever seen. It consists of a mixture of explanation and question, and of oral and written exercises in the class-room. The recitations are upon the previous lessons, and upon questions given to be solved out of the class-room, and the written exercises are solutions of questions and notes

of the explanation of the previous lesson. The collections in natural history are superior to those possessed by any other gymnasium which I visited. Both this and the physical apparatus afford very considerable means of illustration in these departments. The chemical laboratory, in a building apart from the house, is very conveniently arranged, both for instruction and experiments by the pupils.

## CHAPTER XIII.

### SUPERIOR INSTRUCTION.

In a regular system of education, primary and secondary lead to superior instruction, with which the student's career is terminated. The period of life usually embraced by it abroad, is from seventeen or eighteen to twenty or twenty-one. The schools which furnish it are of two classes, those qualifying for entrance into the learned professions, and those preparing for occupations requiring a considerable extent of special knowledge for their successful prosecution. The universities constitute the first class of these special schools; the second have various names, as schools of arts, manufactures and commerce, trade institutes, and polytechnic institutions; the last mentioned title may be conveniently used as referring to the entire class. The special schools of architecture, engineering, mining, &c., and the military and naval schools, also belong to this class. The universities not only serve as special schools for the learned professions, but are also intended to give the highest grade of intellectual culture, to form the scholar and man of letters, or of science. They had their origin in the wants of an early period of civilization, and have continued to be as necessary in its progress, requiring great changes, however, to enable them to keep pace with the times. Schools of arts, or polytechnic schools, have originated in the requirements of modern times, in which occupations have risen in standing and importance, or have been actually created, by the progress of science and the arts. Considered as special schools, the universities have very different objects from those which the founder of the Girard College intended as the aim of his institution, while the purposes of the polytechnic schools are strictly in accordance with

those which his will points out for the highest department of his college. This being the case, a description of foreign universities would, I conceive, be out of its place in this Report. From the character of my associations, before leaving home, which naturally led to similar associations while abroad, I felt highly interested in this class of institutions, and it is with reluctance I have come to the conclusion not to give some description of them in my Report. While it is exceedingly difficult to judge of the results of university systems of different countries, especially so from the amount of talent arrayed in favour of, and even positively against, different systems, and I should make no pretensions to offer such a judgment, the institutions are by no means difficult to describe, so that a reader may conceive the form of the system, and endow that form with spirit, in proportion to the force of his own natural powers and his experience. The differences between the university systems of Great Britain, France, and Germany, afford interesting subjects of reflection to those whose pursuits and dispositions lead them to efforts for the improvement of "superior education." Considering these different systems as so many experiments made under different circumstances, the study of their results, and the modifying effect of circumstances, is no less interesting than useful. The field is, however, vast; the varieties in Great Britain alone would require much space for due description, as a few words will suffice to show. The Scotch and English universities differ very much in their organization, discipline, and instruction, and even the several Scotch universities are not alike. At Glasgow, and the academical institution at Belfast, founded upon its model, the pupils enter, in general, in very early youth. The lectures are, therefore, mixed with recitations held by the professors, which, however, the large classes at Glasgow prevent from being efficacious. The students do not reside in either of these institutions. At Edinburgh, the average age of the student is greater, and the medical department assumes, relatively to that of letters, an importance which modifies the character of the school. The lesser universities of St. Andrews

and Aberdeen differ more from the others in the arrangement of discipline, resulting from the residence of a part of the students in the colleges composing them, than in the character of the instruction. In the larger English universities of Cambridge and Oxford, composed of colleges and halls, in the buildings of which the students generally reside, the discipline of each college may be said to be its own, with a general conformity to that of the university.* The same is true in regard to the instruction, with this difference, that as all the courses tend towards the preparation for university degrees and university honours, there is a general conformity in the several colleges in the subjects taught and methods of teaching. The instruction given by the tutors in the colleges is upon the same general plan, a mixture of lecture and recitation; and as the attendance upon the lectures of the university professors is not obligatory, forms the real basis of the intellectual part of the university education. The inducements held out to exertion in these schools by the rewards which the fellowships and the stations to which they may lead hold forth, and which bring into them the greater part of the best talent of England, produce results which are of the highest order, but which cannot fairly be considered as depending mainly upon the system of instruction and discipline. It must require a very accurate knowledge of facts, with an entire absence of prejudice, to reason as to the general results of the various parts of the complex system, which has grown with the growth of these institutions themselves, and is, therefore, now very deeply rooted.

I consider the opportunity which I enjoyed of witnessing some of the written examinations at Cambridge as of the highest value, and am no longer surprised at the attachment to this method which is there felt. It is accurate and expeditious in its results, removes all possibility of, or temptation to, show, and even the suspicion of partiality, in the distribution of important places.

* A very accurate account of the universities of Cambridge and Oxford is to be found in the report to the Board of Trustees of the University of Pennsylvania, by Philip H. Nicklin, Esq., one of its members.

While I am not yet persuaded that it can supersede the viva voce method, or be employed to such an extent as to sink the use of the latter into comparative insignificance, yet, if the choice lay between the use of the one or other method extensively, I should now prefer the former.

At the university of Dublin (Trinity College), the advantages of the tutorial system are combined with that of the lectures by professors, which the students are enjoined to attend, and the same is the case at the recently erected university of Durham. This university has set the example of adding instruction in civil engineering to its literary courses, and has admitted the modern languages into the latter. King's College and London University College have hardly yet taken the form which time must impress upon them in their new connexion with the London University; the enactments of this recent corporation, in regard to the requirements for degrees, must ultimately regulate the higher studies of these and other institutions, presenting candidates for them. This bare enumeration will serve to show, that to give any thing like an idea of institutions so various in their character, would require much time and more space than could properly be bestowed in a report, to the purpose of which the greater part of the particulars would be found inappropriate. No doubt useful hints might be gathered, but by far the greater part of the matter would be entirely inapplicable to our purpose. For example, the system of university degrees, by which encouragement is given to general effort, and of the privilege to teach, or of stations without actual duty, by which, in many establishments, individual exertion is stimulated and rewarded, are entirely inapplicable to the circumstances of our institution. Again; the tone and modes of discipline, both in those institutions where the pupils reside and in those where they merely come at stated times to receive instruction, are inapplicable to our case, and the general organization and government are not less so. Further, the instruction, as far as it is of a special character, qualifying for admission to the learned professions, as in the continental system, has, of course, no bearing upon our arrangements, and leaves for profitable study the subjects of at

most two faculties. In these the titles of the branches themselves would be all that could serve us; for the mode of lecturing being universally adopted, the treatment of the subject depends upon the individual professor.

In regard to the institutions of the class preparatory to higher trades, to the arts, manufactures, mining, engineering, commerce, navigation, &c., as they furnish examples of schools specially intended to prepare for the pursuits of life, towards which our founder has plainly signified his wish that the pupils of the Girard College should be directed, I shall devote the chief part of the remainder of my Report to describing such examples of them as are most highly approved, having best fulfilled the objects for which they were founded. I shall describe in turn, more or less minutely, the Polytechnic School of Paris, which, originally, as the Central School of Public Works, was the parent of this class of institutions; the School of Arts and Manufactures of Paris, one of the most flourishing establishments, originating in private enterprize; the Institute of Arts at Berlin, and the Polytechnic Institution at Vienna, both supported by government, and the two most successful institutions of their class in Germany; and the School of Mines at Freyburgh, in Saxony, which, though specially devoted to one branch of practical life, belongs to the same class in its studies. I shall also briefly notice, in connexion with the Polytechnic School of France, the civil schools of application to which it leads, namely, those of mines, and of roads and bridges; in connexion with the Institute of Arts at Berlin, the Industrial Schools of Prussia generally; and further, after the School of Arts and Manufactures of Paris, the private Industrial and Commercial Boarding Institute at Charonne. As our founder has intimated that the profession of a navigator is one of those towards which he wishes the pupils to be directed, I annex the programme of the studies of one of the best naval schools in Europe, that of Venice. The officers of the Austrian navy, though they have limited opportunities of practice, are distinguished as well instructed in the science of their profession, and in all its collateral branches.

There are special schools, which, after some consideration,

I have referred to other branches of this Report. Although they educate youth for particular callings, and correspond in general in regard to age with the superior period, yet, as they belong essentially in their grade of instruction to the primary or secondary classes, and have an important bearing upon the schools composing them, I have thought it better to rank them accordingly. In this view the rural schools of Switzerland, which may be considered as special, in so far as they train their pupils as farmers, and the age of the pupils of which extends beyond the usual primary period; the Agricultural School at Templemoyle, in Ireland, the Rural School of Ealing, and the La Martinière Industrial School of Lyons, have been placed under the head of primary instruction. The primary normal schools of Weissenfels, Berlin, Versailles, Dijon, Haarlem, and Zurich, have been ranked under the same general division, though they are special schools so far as they prepare for the profession of a teacher, and belong to the secondary and superior periods in the age of their pupils. The Normal School of Paris has, in like manner, been ranked with secondary schools, in reference to the grade of its instruction. I refer to them here, lest it might be inferred, from their not appearing in what at first may appear their natural place, that no account is given of them. The School of Agriculture and Forestry at Hohenheim, in Wurtemburg, is a true agricultural university, at least in its principal departments, and I have therefore retained it in this chapter.

With these remarks I proceed to the description of the special schools above enumerated, merely adding, that if there is less of general inference and comparison found connected with these institutions than with others, it results from the fact that the schools are special in their nature, and when their objects are not entirely different, so as absolutely to prevent any comparison of their plans, they are usually sufficiently so to make comparison of little value. I have endeavoured to point out these objects, and especially in cases where characteristic modifications in the plans result from them.

## POLYTECHNIC SCHOOL OF FRANCE.

This celebrated institution was organized in 1794, during the existence of the republic of France, by a decree of the convention, under the name of central school of public works; this title was subsequently changed, in 1795, to that of polytechnic school, which, with the prefixes of imperial in 1806, and of royal since 1814, the institution has since borne, and under which it has acquired its celebrity. Among the first professors of the school were Lagrange, Monge, Hachette, Hassenfratz, and Guyton de Morveau. The way for the school was opened by a preparatory school, in which a certain number of pupils were trained to act as assistants, under the charge of the professors already appointed. The organization of the school with a large number of pupils was thus rendered possible, and was begun in May, 1795.*

At first the school was chiefly intended to supply officers for certain branches of the military and civil services. The report, however, of M. Fourcroy to the convention, and the law organizing the school adopted in consequence of it, recognise the principle that the institution has a more general purpose, namely, the diffusion of mathematical, physical, and chemical science, and of the "graphic arts." This important principle is now adopted as its basis, and its pupils are not obliged to enter any branch of the government service. While the recognition of the principle is important, it happens, in point of fact, that few young men who enter the school do not take service, either military, naval, or civil. The branches of service among which the graduates have a right of choice to fill vacancies are, in the department of the minister of war, the artillery, the

* Notwithstanding this piece of foresight, which was, however, carried no further than the preparation of pupils to take part in the instruction and discipline, the expenses incident to the sudden reception of numerous untrained students with the untried organization, amounted the first year to nearly three times the sum to which they were reduced after an experience of two years; the number of pupils having been reduced in the mean time only in the proportion of 391 to 296. The expenses include, however, those for individuals employed upon the collections of models, apparatus, and drawings.

engineers, the staff, the manufacture of saltpetre and powder, and, under certain circumstances, the infantry; in the navy department, the naval artillery, naval engineers or the general naval service, and the hydrographical engineers; in the department of the interior, the corps of roads and bridges, and of mines; in that of finance, the administration of tobacco. The pupils have also a right of admission to the school of forestry, and to attend the courses of other public special schools.

*Government.* From 1795 to 1830 this school was in the department of the minister of the interior, and since that time has been under the charge of the war department. The minister of war has always had, however, a certain share of patronage and influence in the institution, owing to the military form of the interior organization; from 1804 to 1816 this was strictly military, the pupils having been enrolled, armed, and equipped.

The details of interior organization have been so often varied, that if the reasons of the changes not resulting from political causes could be understood, they would prove no doubt most valuable as guides. While, however, the changes are chronicled with care, the motives for them do not appear, and the minute record of them is not followed by its highest appropriate result. The eighth organization of this institution took place in 1832, and was in general in full force when I visited it in 1837. The special regulations of the school are subordinate to, and in conformity with, the decree of 1832.

The immediate control of the institution is vested in a military commandant, a general officer, who must have been a pupil of the school. He is responsible for the execution of the rules and regulations relating to instruction, police, and administration, and reports directly to the minister of war. He is assisted in his duties by the second commandant, who has special charge of the police and discipline. The commandant is president, and the second in command a member of all boards or councils. The other members of the military staff are four captains, having the title of inspectors of studies and military exercises, and commanding the pupils when under arms; one captain, called

instructor, who has the immediate direction of the military exercises, and the clothing, arms, and quarters; and four adjutants, who have charge of the details of the internal police of the institution and of the military exercises. The king appoints the two commandants on the nomination of the minister of war; the other officers are appointed by the minister directly. The arrangements for the superintendence of instruction, of the domestic economy, &c., will be noticed under their appropriate heads.

*Admission.* The number of pupils admitted each year depends upon the probable vacancies in the several corps supplied by the school, and is stated at the time of the annual publication of the conditions of admission. The average number admitted yearly, from 1796 to 1837, was about one hundred and thirty-four, and the number in 1836 was one hundred and twenty-six. The total number in the two classes of the school has fluctuated considerably, but, since 1831, has averaged rather more than three hundred and one. Every native of France, between the ages of sixteen and seventeen, may be a candidate for admission, and special exceptions are made, until twenty-five years of age, in favour of those who belong to the military service. Each applicant registers his name at the prefecture of the department in which he resides, and is examined for admission in the district to which he belongs, or where he is under instruction. With this registry is deposited the certificate of the date and circumstances of birth, a certificate of vaccination or of having had the small-pox, and of general health, and an obligation on the part of the parent or guardian to pay the sum of one thousand francs (about two hundred dollars) yearly to the school, in case of admission.

The subjects upon which a candidate is examined are—1. Arithmetic, in all its branches. 2. Elementary geometry. 3. Algebra. 4. Plane trigonometry. 5. Statics treated synthetically. 6. Elements of analytical geometry. 7. The use of the logarithmic tables. 8. Latin, as far as it is taught in the rhetoric class of the colleges, and French composition. 9. Drawing, with the crayon and with instruments. If the candidate pos-

sesses, in addition, a knowledge of physics, chemistry, German, and of India ink drawing, they are taken into the account. From the great excess in the number of applications over the numbers of places, the competition is necessarily very severe, and it appears from the register of applications and admissions, that since 1796, fourteen thousand one hundred and sixty-four candidates have been examined, and only five thousand five hundred and two admitted. The proportion is even smaller in later years; in 1836, of six hundred and eighteen pupils examined, one hundred and twenty-six, or only about one-fifth, were admitted. All who apply do not come forward to these examinations: in 1836, seven hundred and forty-six names were inscribed, and but six hundred and eighteen candidates presented themselves, so that the number of original applicants, in 1836, was actually six times that of the places to be filled.

There are four examiners appointed annually by the minister of war, on the nomination of the council of instruction of the school. These divide between them the different districts in which the examinations are to be held, and repair, at a stated time, between the first of August and tenth of October, to the place appointed. The performance of the candidates is registered according to a scale of marks, as nearly uniform as the judgment of different individuals allows; these registers being compared, the candidates are admitted in the order of merit, thus determined, as far as the number of vacancies permits, the admission being made by the decision of a board, the composition of which will be presently stated. Thus this truly national institution is thrown open to all of suitable age, and their admission depends solely upon their talents and acquirements. The successful candidates are informed of the result of their examination, and join the school early in November. They are received by a board (jury) of examiners, who subject them to a second examination, intended to verify the first, and to the inspection of a surgeon. This board consists of the two commandants, the director of studies, the two permanent examiners attached to the school, and the four examiners for admission.

While pupils are admissible to this school as early as sixteen years of age, they are usually older on entering; of one hundred and twenty-six pupils admitted in 1836, seventy-four were twenty years, and thirty-six nineteen years of age. There are twenty-four gratuitous places for pupils whose families are in needy circumstances; of these, twelve are at the disposal of the minister of war, eight of the minister of commerce, and four of the minister of marine. These bursaries may be halved. No pupil who is lower than two-thirds from the head of the list, in the order of merit at admission, is eligible to a bursary or half bursary.

Besides the students thus regularly entering the school, a certain number of youths are permitted to attend the lectures (auditeurs libres). The majority of these are foreigners. There were thirty-three such "auditeurs" in 1835–6, and forty-five in 1836–7. Among these were Englishmen, Belgians, Germans, Poles, Italians, Greeks, Wallachians, Turks, Egyptians, Mexicans, and Brazilians. Not one citizen of the United States was enjoying this privilege.

*Instruction.* The highest executive authority in matters of instruction, is the director of studies.* This office was created in 1804, previous to which time the council of instruction had discharged its duties. The director of studies oversees the details of instruction, being immediately responsible to the commandant of the school. He is appointed by the king, on the joint nomination of the council of instruction of the school and of the Academy of Sciences, and is a member of all boards convened in relation to its affairs. A council, termed the council of instruction (conseil d'instruction), and composed of the two commandants, the director of studies, the professors of the school, one master, appointed annually by the teachers from among their number, and the librarian, who acts as secretary, meets once a month for the discussion of business relating to instruction. When changes are required in the courses

* To the director of studies, the eminent philosopher M. Dulong, whose loss has since been so deeply deplored by the scientific world, I am indebted for an opportunity of visiting the school, and of being present at its examinations.

or in the examinations, they are discussed in this council and referred to a second, which may be considered as the chief legislative body, in regard to the subjects composing the instruction.

This council, termed the council of improvement (conseil de perfectionnement), consists of the two commandants, the director of studies, the five examiners in the school, one examiner for admission, three members of the Academy of Sciences, three professors in the school, and a member from each of the branches of the public service into which the graduates enter.

The officers directly concerned in instruction are, the professors and the repeaters (répétiteurs). The professors and masters are appointed by the minister of war on the joint nomination of the council of instruction and of the particular Academy of the Institute in which the subject of instruction is classed. The professors communicate instruction by lecture and by general interrogations of the pupils. The repeaters conduct the special interrogations, and give aid to the pupils while engaged in study. The title of "repeater" is, no doubt, derived from the original duty of these teachers having been to go over the lessons of the professors. The repeaters do the more laborious work of instruction, and since their substitution for the pupil teachers, who were employed in the earlier period of the existence of the school, have been considered most important officers. There were attached to the institution, in 1837, ten professors, five masters, and twelve repeaters. Some of the most distinguished professors have risen from the rank of repeaters.

There are two divisions of the pupils for instruction, corresponding to the two years' duration of the courses. No pupil is allowed to remain in one of these divisions more than two years, nor in the school more than three. To proceed from the first division to the second, or to graduate, an examination must be passed upon the studies of the year then just elapsed. Until 1798, these examinations were conducted by the professors, but now there are examiners, who are not connected with

the school. Two of these are permanent, and appointed by the minister of war on the joint nomination of the Council of Instruction and of the Academy of Sciences, and three are appointed annually on the recommendation of the council. The examinations on mathematics and analytical mechanics, and of members of the graduating class, which I attended, were decidedly superior to any which I saw abroad, except in a single instance. The courses of the first year are—analysis, geometry, mechanics, descriptive geometry, application of analysis to geometry, physics, chemistry, French composition, topographical drawing, drawing of the human figure, landscape drawing, and India ink drawing. Those of the second year are—a continuation of the analysis, geometry, mechanics, physics, chemistry, and drawing of the first year, besides machines, geodesy and social arithmetic, architecture, and the German language. Up to 1814, there were courses of civil engineering, fortification, and the science and art of war, but these were then transferred to the special school of application to which they appropriately belong. The different branches are not all taught at the same time, and, therefore, do not all extend throughout the whole of the year. Instruction is given in physics and chemistry, in both classes, from early in November to the middle or end of June, or the beginning of July, and in topographical drawing, from November to the beginning of June. In the first year's courses of architecture and French, and in the second year's course of German, from the same date to the close of June or the first week in July. The courses of analysis and geometry, and of statics and dynamics, in the first year, follow each other in succession, as also those of descriptive geometry and the application of analysis. The same is the case in the second year with the courses of analysis and geometry, of mechanics and machines, and of geodesy and social arithmetic. The lectures are followed by revisions and general interrogations, to which the closing portion of the period of the course is devoted. The number of lectures in each course is stated in the following table:

Table of the number of lessons in the different departments of study in the Polytechnic School.

| SUBJECTS OF STUDY. | Second division, or first year. | First division, or second year. |
|---|---|---|
| Analysis and Geometry, | 52* | 44* |
| Mechanics, | 33* | 41* |
| Machines, | | 22† |
| Descriptive Geometry, | 68 | |
| Analytical Geometry, | 14 | |
| Geodesy, | | 29† |
| Social Arithmetic, | | 6† |
| Physics, | 32 | 30 |
| Chemistry, | 36 | 36 |
| Architecture, | | 34 |
| French Composition, | 31 | |
| German Language, | | 32 |
| Topographical Drawing, | 33 | 30 |
| Drawing of Human Figures & Landscapes, | 45 | 45 |
| India Ink Drawing, | 22 | 20 |

* The lessons of analysis and of mechanics include lectures, revisions, and general interrogations of the whole class. These courses belonging to the same department, the lectures on analysis and interrogations upon them occupy one part of the year, and the statics and dynamics the other. The courses of lectures are followed by a general review, consisting of interrogations by the professor and repeaters.

† The courses of machines, geodesy, and social arithmetic, in the second year, belong to the same department, and the remark just made in relation to the courses of analysis and mechanics applies also to them.

There are two professors of mechanics and four repeaters for the course of analysis and mechanics, and two professors and two repeaters for that of chemistry. The courses of geodesy and topography, machines, and social arithmetic, are under the same professor, who has a repeater as an assistant. There are four masters for the drawing department, comprising that of the human figure, of landscapes, and in India ink. Each of the other subjects have a professor or master in charge of them, and each, except the master of topographical drawing, has a repeater.

I fear that even a sketch of the ample programme of this school may be considered as leading into too much detail, but will endeavour, as briefly as possible, to give some idea of the nature of the courses, since I cannot omit what are justly considered as models in their several ways.

### Analysis.

*First Year.* Differential and integral calculus, to include the rectification and quadrature of plane curves, and of curved surfaces, and the cubature of solids.

*Second Year.* Differential and integral calculus continued. Elements of the calculus of variations and of finite differences. Formulæ of interpolation, &c.

### Mechanics.

*First Year.* Statics.—Composition, and equilibrium of forces. Theory of parallel forces. Of the centre of gravity. Attraction of a point by a homogeneous sphere. Dynamics.—General formulæ of motion. The pendulum. Projectiles. Problems in physical astronomy.

*Second Year.* Statics continued. Forces applied to an invariable system. Principle of virtual velocities. Application to simple mechanics. Dynamics. D'Alembert's principle. Collision. Moment of inertia, &c. Hydrostatics. Hydrodynamics.

Every lecture of analysis or mechanics is preceded or followed by interrogations by the professor. Problems are given out for solution. The repeaters interrogate the pupils three times per week. After the completion of the course, general interrogations take place, upon the whole subject, by the professors and repeaters.

### Descriptive Geometry.

Problems relating to the right line and plane (twelve problems). Tangent planes and normals to curved surfaces (four problems). Intersections of surfaces (seven problems). Miscellaneous problems (seven).

*Applications of Descriptive Geometry.* Problems with a single plane of pro-

jection, and a scale of declivity. Linear perspective (three problems). Shadows (three problems). Stone cutting (seven problems). Carpentry (four problems).

*India ink drawing.* Elements in four examples.

### Analytical Geometry.

The right line and plane. Curved surfaces.

The professor may precede or follow his lectures by interrogations. During the course the class is examined by the repeaters, and at the close of the studies of Analytical Geometry there is a general review.

### Machines, Astronomy, Geodesy, and Social Arithmetic.

Elements of machines. Machines for transporting burthens and for pressure. For raising liquids. Moved by air, by water, by steam. Useful effect of machines.

*Astronomy and Geodesy.* Formulæ of spherical trigonometry. Measurement of space and time. Of the celestial bodies. Of the earth. Elements of physical geography and hydrography. Geodesy. Instruments. Figure of the earth. Projection of maps and charts.

Elements of the calculation of probabilities. Tables. Insurances. Life insurance, &c.

Interrogations by the professor accompany the lessons. Those by the repeater must be at least as frequent as those by the professor. At the close of the principal courses there is a general review, in the way of interrogation, by the professor and repeater.

### Physics.

*First Year.* 1. General properties of bodies. Falling bodies. Principle of equilibrium of fluids. Specific gravities. 2. Heat. Radiation, conduction, &c. Vapours. Latent heat. 3. General constitution of the atmosphere. Hygrometry. 4. Molecular attraction. Capillary action. 5. Electricity. Laws of attraction, repulsion, distribution, &c. Atmospheric electricity. Modes of developing electricity.

*Second Year.* 6. Magnetism. Phenomena and laws of magnetism. Instruments. Reciprocal action of magnets and electrical currents. Electro-dynamics. Mutual actions of electrical currents. Thermo-electric phenomena. 7. Acoustics. Of the production, propagation, velocity, &c., of sound. Acoustic instruments. 8. Optics. Mathematical and physical optics. Optical instruments.

During the whole course the repeaters interrogate each division twice every week; they go through the study-rooms, and give any explanations which may be required by the pupils.

### Chemistry.

*First Year.* General principles. Division of the course. Examination of the principal simple substances. Mixtures and binary compounds. Laws of definite proportions, &c. Hydracids. Oxacids and oxides. Bases. Neutral binary compounds. Salts. Principal metals.

*Second Year.* Reciprocal action of acids and oxides. Action of water upon salts. Laws of Berthollet discussed. General properties of the carbonates, and special study of some of the more important. Borates and silicates. Glass and

pottery. Nitrates. Gunpowder. Phosphates, &c. Sulphates. Chlorates. Chromates and other classes of salts, with details as to the more important. Extraction of the metals from their ores, methods of refining, &c. Organic chemistry. Vegetable substances. Animal substances.

This course is accompanied by manipulations in the laboratory of the institution, in which the most useful preparations of the course are made by the pupils themselves. They are also taught the principles of analysis, both mineral and organic, practically.

### Architecture.

Component parts of edifices. General principles. Materials. Foundations. Strength. Forms and proportions of the parts of buildings. Floors. Roofs, arches, &c. General principles of the compositions of parts of edifices. Illustrations of the different varieties of parts, as porticos, porches, vestibules, halls, &c. Composition of an edifice. Varieties of buildings—as colleges, hospitals, prisons, barracks, &c.

The pupils copy from the board the sketches of the professor, and draw them carefully when required. At the close of the lectures there are four different subjects assigned, upon each of which there is a competition. The pupils are classified according to the result of these competitions, and of the marks for their graphic exercises during the course. The best designs are exhibited. Three India ink drawings are made on architectural subjects during this course.

### French Composition.

The course consists principally in the writing of essays and compositions by the pupils, which are subsequently criticised during the recitations.

### German Language.

Elements of the language. Grammar reading. Themes and versions. Every lecture is followed by an examination of an hour and a-half in duration, by the professor or repeater. There are, besides, exercises of pronunciation and common conversation.

### Topography.

Exercises in topographical drawing. Different modes of representing the ground by horizontal curves, the projections of lines of greatest declivity, and by shading. Conventional signs. Lettering. The exercises of the second division are preceded by lessons from the professor of geodesy, explanatory of the theory.

### Drawing of the Human Figure and Landscape Drawing.

In the first branch the pupils are divided into two classes, one of which copies engravings, and the other draws from models. On entering the school the pupils are classified according to the drawings which they made at the examination for admission. They are then divided into two sections, of as nearly equal strength as possible, and assigned, each one, to a master, with whom they remain during their course. One of the drawing-masters is specially charged with the course of drawing from casts and from nature. At the beginning of the second year, the highest third of the pupils of each section of the former first division go to the

teacher of drawing in water colours, and remain for two months. They return to their sections, and are replaced by the next division, each pupil occupying a third of the second year in this kind of drawing. The merits of the drawings are judged every two months. After the first of May the ordinary drawing lessons are replaced by those in water colours.

Besides these regular studies, there are from twelve to fifteen lectures on anatomy and physiology, given towards the close of the second year, during hours not devoted to the regular branches, and which it is optional with the pupils to attend or not. Fencing, music, and dancing lessons, are also given.

During the interrogations by the professors and repeaters, notes are taken of the merit of the answers of the pupils, according to a uniform scale of marks. These are communicated with the subjects of each lecture or recitation to the director of studies, and placed upon record, as assisting in determining the merit of the pupils. The examiners mark according to the same scale. The pupils are classified after the examinations in the several departments, and in taking the average for the standing in general merit, a different weight is allowed to the different courses. Mathematics counts most, and then the graphic exercises, descriptive geometry and geodesy united, and the conduct of the pupils, count the same—then physics and chemistry. The graphic exercises of the course occupy a very considerable part of the time of the pupils; indeed, by some intelligent individuals, friends of the school and of its general arrangements, this portion of the course is thought to have received too great an extension.

The examinations at the end of each of the two years of study are divided into four; the first, on the courses of the first year, including analysis, part of analytical geometry, and mechanics; the second, on chemistry; the third, on physics; the fourth, on descriptive geometry and its applications, and part of analytical geometry. The examination at the close of the second year is divided as follows:—First, analysis, analytical geometry, mechanics, effects of machines and social arithmetic. Second, chemistry. Third, physics. Fourth, geodesy, description of machines, and architecture. The examinations on analysis and its applications, and mechanics, are conducted by the two permanent examiners. The pupils are examined singly and

without the presence of their comrades, and each examiner occupies a separate room. Where the branches admit of it, the examinations are viva voce, the student using the blackboard when required.

After the examinations are completed, the results are reported to a Board, who, with all the materials before them from the examiners and from the school, decide whether the pupils may pass to the higher division, or are admissible into the public service, according to the division to which they belong. This board ("jury") consists of the two commandants, the director of studies, the two permanent and three temporary examiners.

Few of the pupils do not pass these examinations, severe as they are, which is attributable to the closeness of the examinations for admission. In 1836, of one hundred and thirty-one pupils examined in each of the divisions, only eight in the higher and five in the lower were required to go over their courses. This is a great gain to the institution in every respect, on the score of moral and intellectual progress, as well as of discipline and economy.

The arrangement of the time allotted to study, like the similar points in regard to instruction, is a matter of very minute regulation. The pupils study in large rooms, conveniently fitted up for the purpose, and where they receive by lot, at entrance, places which they retain, in general, during the course. The interrogations or recitations take place in rooms adapted to that purpose, separate from the larger lecture halls. These recitation-rooms are also open to the pupils in winter, during recreation hours, and after supper; and in summer, whenever the weather is bad, so as to prevent them from spending the time in the open air, besides at certain stated periods before the examinations. The superintendence of studies, so far as entrusted to the pupils, will be described under the head of discipline. The repeaters are present during the periods devoted to the studies of their several departments, and, except in the cases of the graphic exercises, where it is not allowed, are expected to give assistance to the pupils who ask for it.

The order of the day in the institution is arranged with a

view to bring the lectures, recitations, and studies of particular branches, together. Besides this, there are study-hours, called free, in which the student may employ himself as he pleases, otherwise than in drawing of any kind (graphic exercises). The following table, which contains the order of the day for the lower class during the first half of the year, with the subsequent remarks giving the variation from it in the second period, will show sufficiently the principle of arrangement. The dotted lines in the vertical columns signify that the duties are not necessarily according to the order of time as laid down in the table, but that one may take the place of the other.

Order of the day for the pupils of the second division, (first year,) of the Polytechnic School, from November, 1836, to May, 1837.

| | | | | | | |
|---|---|---|---|---|---|---|
| | 6 to 6½ o'clock. | Rise at six. Roll call in the study-rooms at half past six. | | | | |
| | 6½ to 8 | Free study in the study-rooms. | | | | |
| | 8 to 8½ | Breakfast. | | | | |
| *Monday.* | 8½ to 10. | Interrogations and lecture on descriptive geometry. | 10 to 12. | Study, graphic exercises, and interrogations on the foregoing. | 12 to 1½. | Lecture on physics. |
| *Tuesday.* | | Interrogations and lecture on analysis or mechanics. | | Study on the subjects of the preceding lecture. | | Graphic exercises and interrogations on descriptive geometry. |
| *Wednesday.* | | Lecture on chemistry. | | Ditto | | Lecture on analytical or descriptive geometry. |
| *Thursday.* | | Interrogation and lecture on analysis or mechanics. | | Ditto. | | Topographical drawing. |
| *Friday.* | | Interrogation and lecture on descriptive geometry. | | Study and graphic exercises on the foregoing. | | Chemical manipulation, or free graphic exercises. |
| *Saturday.* | | Interrogation and lecture on analysis or mechanics. | | Study on the subjects of the preceding lecture. | | Graphic exercises and interrogations on descriptive and analytical geometry. |
| *Sunday.* | | Police. Inspection. | | May be absent on | | |
| | 1½ to 2½ | Study of physics. | | | | |
| | 2½ to 3. | Dinner. | | | | |
| | 3 to 5. | Recreation. Exercise. Fencing. Music. | | | Dancing. Library. | |
| | 5 to 7. | Free study and interrogation on chemistry and physics. | Free study and interrogation on analysis and mechanics. | Lecture on literature. | May be absent on leave. | |
| | 7 to 9. | Free study and interrogation on analysis and mechanics. | Drawing of the human figure and landscapes. | Literary composition. | Drawing of the human figure and landscapes. | Free study and interrogation on analysis and mechanics. |
| | 9 to 10 o'clock. | Supper at nine. Roll-call in the dormitories at half past nine. and lights out at ten, or on Sunday at half past ten. | | | To bed | Leave until ten o'clock. |

The alterations in this programme, between the first of May and the end of the scholastic year, are very trifling. The courses of analysis have been completed, as well as that of analytical geometry, and hence are no longer to be found in the list of duties. The study-hours, from five to seven on Tuesday and Friday, are transferred to from seven to nine, and the two hours, from five to seven, are occupied in water-colour drawings.

There is probably no school richer than this in the means of illustrating the various courses which are taught in it. It has extensive collections of physical and chemical apparatus, of models of machines, of mathematical instruments, of drawings and models in descriptive geometry and its applications, and in topography, and of drawings, engravings, and casts for the courses of drawing. The cabinets of apparatus and models are under the charge of three curators (conservateurs), who are expected not only to keep in order the existing collections, but to add to them, under the direction of the professors.

While such ample provisions are made for the intellectual education of the pupils, and their physical education is attended to in at least a reasonable degree, I am not aware that any provision is made for moral or religious instruction within the walls of the institution, or for regular attendance upon such duties without the walls.

*Discipline.* The discipline of the school is thoroughly military, and the means of carrying it out in all its strictness are provided. The regulations are very minute, and fix, in detail, the punishment considered equivalent to each offence, as well for those against morals as transgressions of the regulations themselves. The punishments are—1. Private admonition by the commandant or vice-commandant. 2. Public reprimand before the corps of pupils. 3. Confinement to the walls of the institution, or stoppage of leave. 4. Confinement to the house. 5. Imprisonment within the walls. 6. Military imprisonment. 7. Dismission. The usual punishment for trivial offences is the stoppage ("sortie"), one of which is equivalent to a deprivation of the general leave of absence for half a-day. This may be

awarded by an officer as low as an adjutant. It follows certain specified offences, as overstaying a leave, when the number of stoppages is in proportion to the time of overstaying the leave, and is even assigned for a failure in recitation. Imprisonment within the walls can only be awarded by the commandant, vice-commandant, or director of studies, and excludes the student from the recitation-room. Confinement in the military prison requires the order of the commandant, who reports the case at once to the minister of war. Dismission cannot take place without the sanction of the minister. Cases of discipline, supposed to involve dismission or the loss of a bursary, are referred to a board called the council of discipline, and composed of the two commandants, the director of studies, two professors, two captain inspectors, the captain instructor, and one administrator.

For military exercises, and the general furtherance of discipline, the pupils form a battalion, divided into four companies, each division of the school forming two companies. From each company eight petty officers, called sergeants, are taken, according to the order of the merit-roll of the division, making thirty-two in the whole battalion. These sergeants are distinguished by appropriate military badges. The sergeants have charge of the other pupils in the study-rooms, halls, recitation-rooms, refectory, laboratories, and lecture-rooms, and two of them in turn are joined with a higher officer, an adjutant, in the inspection of the food. They have charge in general of the details of police. The second sergeants are entrusted with the collection of the money due by their comrades for letters and other authorized expenses. These officers are appointed once a-year.

On Wednesday, from half past two in the afternoon to half past eight, in the summer, and to nine in the winter, and on Sunday, from after inspection to ten at night, the pupils are allowed to be absent from the institution. They are required to wear their uniform when abroad. On their return they sign their name to a list kept by the porter, who marks and reports the time of their return. A certain number of stoppages is assigned for a breach of punctuality, according to its extent.

On certain afternoons the parents and relations of pupils are permitted to see them in the parlour, from three to a quarter to four. The pupils do not perform any duties of police; their arms are cleaned and kept by an armourer, and barrack-keepers are appointed for the police of the quarters—provisions which I look upon as defects.

*Graduation.* As already stated, the board of examination decide formally upon the claims of the pupils of the second year to be graduated, and arrange the rolls in the order of merit. The pupils then, in turn, choose the department of the public service which they wish to enter, and in case there is no vacancy in this department, are still entitled to priority of choice in other branches over those below them. The school has supplied, between the years 1795 and 1836, four thousand and thirty-six members to the public service, or an average of more than ninety-six annually. Of these, the following numbers have entered the different branches of the military service, namely: the artillery, sixteen hundred and ninety-six; engineers, nine hundred and seventeen; staff, twenty-five; geographical engineers, one hundred and eight; the manufacture of saltpetre and powder, nineteen: the infantry, or line of the army, one hundred and nineteen; total, two thousand seven hundred and seventy-six. Besides these, there have entered the naval service: in the artillery, fifty-five; engineers, one hundred and eighteen; hydrographical engineers, thirteen; navy proper, one hundred and five; total, two hundred and ninety-one. Also the civil service: in the corps of mines, one hundred and thirty-six; roads and bridges, seven hundred and eighteen; tobacco, seven; total, eight hundred and sixty-one.

There are at least one hundred of the graduates of the school in the higher branches of public instruction, but as they have left the services just enumerated for these stations, they are included in the list just given. In 1836, of one hundred and twenty-one graduates, nine only did not enter the public service. As an additional means of making the school useful to the country, it has been proposed that a corps of architects should be formed, to be supplied from the school, and further to exempt

those graduates who wish to enter the career of scientific instruction from the examination for the baccalaureate of sciences.

On entering these several services, the graduates pass to the schools of application, or special schools, intended to give the technical preparation necessary; a notice of those which prepare for civil pursuits will be found at the close of this article.

Madame Laplace has recently founded a prize, to be given to the first on the list of graduates from the school every year, and designed to testify the great interest which her deceased husband took in its welfare. Laplace was one of the first examiners of the candidates for graduation, in 1796.

*Domestic Economy.* The administration of the fiscal affairs of the school is committed to a board consisting of the commandant and vice-commandant, the director of studies, two professors, designated by the council of instruction, two inspectors of studies in turn, according to rank, the administrator or steward as reporter (rapporteur), the treasurer as secretary. The last two named agents are consulting members only. This board meets twice every month. It prepares the estimates for the expenses of the school, which are submitted to the minister of war. The form of these and, indeed, of all the accounts, is laid down minutely in regulations.

The payment made by parents for the maintenance of the pupils does not go into the treasury of the institution, but into the general central treasury of the country. The school furnishes the pupil, for a stipulated sum, with his board, lodging, clothing, and petty expenses. For repairs of clothing and petty expenses, a special sum is set aside, of which the student receives an account. Parts of the supply of clothing, &c., at entrance, may be furnished by the parents, but the rest is supplied by the school at the parents' expense.

The steward (administrateur) is the executive officer of the domestic economy of the school—prepares all matters of business for the consideration of the council of administration, and the estimates of every kind, regular and contingent; presents the plans and estimates of the architect of the school for repairs or new buildings, and superintends their execution when

authorized; makes contracts and receives the articles contracted for; has charge of the issue of all articles, of the storehouses, and of the servants; superintends the infirmary: he nominates the subordinate persons employed in his department, and is responsible directly to the council, in virtue of the authority of which he is supposed to act.

Under this officer are the treasurer of the school, who also acts as secretary to the council of administration, and the storekeeper. The librarian and curators are responsible also for the several collections under their charge. A physician, attached to the school, makes a regular daily visit, and is called in whenever required. He has two health officers under him, for the service of the infirmary, and the sisters of charity act as nurses.

### Schools of Practice into which the Graduates of the Polytechnic School pass.

It will be recollected that the services into which the graduates are received are the military, naval, and civil. There are special schools of practice for the land artillery and engineers, and for the staff or topographical engineers. The officers who have charge of the manufacture of powder are sent to the different government establishments for practice. The graduates intended for the naval artillery go to the school of practice for the land artillery at Metz; those for the naval engineers, to a special school at L'Orient. The hydrographical engineers enter at once upon the actual discharge of their duties in subordinate situations. The courses in these schools, or the apprenticeship to the duties of the service, vary from two to three years, according to the branch. The civil services have the schools of practice for the corps of roads and bridges, and of mines, and for the manufacture of tobacco.

### SCHOOL OF ROADS AND BRIDGES.

The corps of civil engineers, entitled Corps of Roads and Bridges (corps de ponts et chaussées), have in charge all the

works of this class, for the construction and repair of which the government is responsible. Their special school at Paris was founded as early as 1747, and embraced some of the acquisitions now made at the polytechnic school. Its organization, however, appears to have been exceedingly imperfect, the pupils being admitted without examination, and receiving part of their instruction out of the school. At present, the regular pupils are admitted from the polytechnic school, and go through a course of three years. The branches taught consist of applied mechanics, civil architecture, constructions, mineralogy, geology, administrative jurisprudence, drawing, and the English, German, and Italian languages. There are examinations at the close of each year. The lectures occupy the period from the 20th of November to the 1st of May. During the intervening time, from May to November, the students of the second and third years are sent into the field for practice, under the departmental engineers. The pupils receive pay, as aspirants (aspirans), from the government while at the school, and may rise to the rank of engineer of the second class in three years from the period of leaving it.

### SCHOOL OF MINES.

The corps of mines is charged with the execution of all laws relating to mines, miners, quarries, and furnaces, and with the promotion, by advice or personal exertion, of the branches of the arts connected with mining. They superintend the working of mines, and are responsible for the safety of the workmen, the due preservation of the soil, and the economy of the work. They also have the special superintendence of the execution of the laws relating to the safety of the steam-engine. They have two schools of practice, one at Paris, called the school of mines, the other at St. Etienne, called the school of miners. The duties of instruction in both these schools are confided to members of the corps. That at Paris is considered to rank among the first of the special schools of France.

The regular pupils of the school of mines are divided into

two classes, according to the pay received from the government. The pupils from the polytechnic school enter the second of these classes. They remain at the school not less than two nor more than four years. During the winter there are courses of mineralogy, geology, the working, refining, and assaying of metals, the working of mines, drawing, and the English and German languages. At the close of these courses the pupils are examined.

The students of the first year are employed during the summer in chemical manipulation in the laboratories of the school, which are admirably provided for this purpose, in making geological excursions in the neighbourhood of Paris, and in the use of surveying instruments. During the similar periods of the following years, the students are sent into the departments, and sometimes abroad, to make particular examinations in relation to their profession, and on their return are expected to present a memoir descriptive of their investigations.

The students of the first, or highest class, are present at the sittings of the general council of mines, to familiarise them with the business of the corps. After their final examination they are classed in the order of merit, and receive their first promotion accordingly. The scientific collections of this school are of the highest interest. Those made by the members of the corps of mines, and specially applicable to their service, could not be replaced.

## CENTRAL SCHOOL OF ARTS AND MANUFACTURES OF PARIS.*

This school was founded in 1829, for the purpose of providing suitable instruction for young men intending to become civil engineers, superintendents of manufactories and work-shops, architects, machinists, &c. It is intended to afford instruction of a character similar to that of the polytechnic school, but applicable to the arts in general. The school has, since its

* M. Lavallée, director, to whose kindness I am indebted for an opportunity to examine the school. MM. Dumas, Peclet, Payen, and Milne Edwards, are among the professors of this institution.

establishment, been recognised by the government, who have supplied funds for the admission of pupils from different parts of France; in 1836–7, twenty-eight pupils were thus admitted, whose expenses were defrayed entirely, or in part, from a specific appropriation by the chamber. The society for the encouragement of national industry, in France, has also given their sanction to the school, by establishing six half bursaries, to be filled every three years.

*Government of the school.* This is vested in a general director and council of studies, who delegate a portion of their authority to a director of studies. The director has the general administration of the establishment, residing in it; conducts the correspondence, and appoints the officers, the higher ones being nominated by the council. The council of studies is composed of the director of studies and of a certain number of professors. They regulate every thing relating to the courses of instruction, to admissions, to examinations, and certificates on leaving the institution. They elect their president and secretary, and hold monthly meetings. During the recess of this council they are replaced by a council of order, consisting of the director of studies and at least one professor, who meet weekly.

The officers of the school, besides the general director and the director of studies, are the professors and masters, repeaters (répétiteurs), and preparers (préparateurs). The repeaters hear the recitation upon the subjects on which the professors have lectured; the preparers get ready the experimental part of the lectures on chemistry and physics. There are thirteen professors, two masters, and six repeaters, besides the two directors and other officers.

*General arrangements.* The school is for day-scholars only, but when requested, the director recommends a place of residence for the pupil, and there is, in fact, a boarding-house in the neighbourhood especially established for the reception of pupils of the school and of candidates for admission. The institution is open every day, except Sunday and Thursday, from eight until four o'clock; on Thursday, from eight until one.

Parents who reside out of Paris are required to designate a friend residing there as guardian to their son at his entrance into the school. Implicit obedience to the regulations and to the orders which they may receive is required of the pupils, who, if they consider themselves aggrieved, have recourse to the council of studies.

*Admission.* Pupils may be admitted at sixteen years of age, if they have the necessary attainments, but as a general rule, it is found that youths at this early period have not sufficient maturity of intellect to follow the courses of the school to the best advantage. The examinations for admission are both viva voce and in writing. Those at Paris are made by a special examiner, designated by the council of studies: in other parts of France they may be made by a professor of mathematics in a royal or communal college, and in other countries by a professor of mathematics in a university. In these latter cases the examiners must forward certain statements; among these must be a certificate that at least twelve questions from the programme of the school have been answered by the candidate in the oral examinations, the questions being specified, and a number appended to each to designate the character of the answer; another, that three questions from the same source have been answered in the written examination, without the aid of books, except only logarithmic tables, if required. There must further be a certificate of the moral character of the candidate. These examinations should be made in time to transmit the result to Paris before the twenty-fifth of October. The applicants are informed of the result at their residence, and if admitted, must join the school before the tenth of November.

The qualifications for admission are given in detail, to meet the requisition above stated; they may be stated, generally, as follows:

*Arithmetic.* The four ground rules. The general theory of numbers. Vulgar and decimal fractions. Theory of fractions. Decimals. System of weights and measures.

*Algebra.* The ground rules. Simple and quadratic equations. Resolution of problems. Proportions. The extraction of roots

and raising of powers. The binomial theorem. Powers and root of polynomials. Logarithms. Progressions.

*Geometry.* The principal propositions of plane, superficial, and solid geometry. The application of algebra to geometry. Mensuration.

Besides these necessary qualifications, the council of the school recommend to candidates the further study of the elements of descriptive geometry, of plane trigonometry, and of analytical geometry, and to acquire some general ideas of physics and chemistry. They are particularly advised, also, to prosecute drawing, and especially ornamental drawing.

*Instruction.* The full course at the central school lasts three years, as at the polytechnic school. "The instruction is composed of lectures, of daily interrogations, of graphic exercises or drawing (travaux graphiques), of manipulations in chemistry, stone-cutting, carpentry, physics and mechanics, of constructions, problems, plans, partial competitions, or trials of skill by the pupils, and of general examinations."

The studies and exercises of the first year, as well as the lectures of the succeeding years, are obligatory upon all the pupils. They are intended to lay the foundation upon which the special courses are to rest, conveying principles applicable to all arts. The drawings and manipulations, and the projects or plans for work, are divided into two sections, one general, the other special. The four sections of the special division are, first, the construction of machines and the mechanic arts; second, engineering, building, the physical arts, as warming, lighting, &c.; third, chemistry applied to the arts; fourth, mining and metallurgy, or the working of metals. The pupil decides at the end of the first half year of the second course to which of these sections he means to attach himself.

There are three divisions, or classes, corresponding to the three years of study, to proceed from one to the other of which the pupil must pass a satisfactory examination on the subject of the preceding year.

The following is an outline of the courses of the three years.

### First Year.

*Descriptive Geometry.* Theory, and applications to perspective, shades and shadows, stone-cutting and carpentry. The pupils reduce the demonstrations to writing, and sketch the diagrams. A few selected problems only are drawn with instruments.

*Analytical Geometry and Rational* (theoretical) *Mechanics.* Trigonometry, analytical geometry. Statics. Dynamics, hydrostatics, hydrodynamics.

*Theory of Machines.*

*General Physics.* General discussions. Solid, liquid, and gaseous bodies. Heat. Electricity. Magnetism. Light.

The pupils are exercised in determining specific gravities, in the construction of the thermometer, the use of the hygrometer, and in the determination of heights by the barometer.

*General Chemistry.* General doctrines. Simple non-metallic substances. Selections from their compounds, with oxygen. Compounds with hydrogen. The metals. General properties of chlorides, &c. The salts. Organic chemistry. Vegetable and animal substances.

*Hygiene and Natural History applied to the Arts.* The first part of the course is composed of the principles of physiology and hygiene. The second, of the natural history of organized beings which yield substances useful in the arts.

### Second and Third Years.

*Descriptive Geometry.* Explanations by the professors, and modelling problems in stone-cutting in plaster.

*Rational Mechanics.* Conclusion of the course begun in the first year, with numerous applications, and the solution of problems.

*Theory of Machines.* This course is divided into two parts, which are taught alternately every two years, to the united first and second classes. Section A. Elementary machines. Animal power. Hydraulic machines. Section B. Application of theory to the machines for raising water or transmitting pressure. Wind-mills and blowing machines. Strength of materials.

Students of the second class submit elementary plans for machinery as applications of the course, and those of the first class more enlarged projects, with drawings, calculations, estimates, and descriptions.

*Construction of Machines.* Section A. On the materials used in the construction of machines. On the composition of machines and their elementary parts. Section B. On the erection of machines.

The students present plans, as in the course just described.

*Physics applied to the Arts.* Section A. Strength of materials. Balances. Heating. Motion of air in pipes, &c. Vaporization. Construction of lightning-rods. Section B. Distillation. Evaporation. Dyeing. Heating of gases and liquids. Cooling of bodies. Lighting.

These lectures occupy the first half of each year in these two classes. The plans, drawings, and descriptive memoirs of the kind before referred to are discussed by the professor, with sections of the class, who meet twice a week for the purpose. The pupils also construct models of the chimneys and furnaces

described in the course, with prisms of plaster, of one-fourth the size of ordinary bricks. These are executed under the superintendence of the professor and repeater.

*Analytical Chemistry.* The course consists of twenty lessons in mineral analysis, and sixteen in organic analysis. During the course, special laboratories are open, in which the pupils, in turn, practice the processes most useful in their intended callings.

*Chemistry applied to the Arts.* Each section of the course occupies a year, and consists of twelve lectures. Section A. The materials drawn from the earth and applicable to all the arts; the manufacture of mineral preparations; the preparation of plaster, lime, and mortar; the manufacture of pottery, enamel, and glass; the extraction of metals; the composition of alloys; the different applications of raw or residual matters in the arts, agriculture, and domestic economy. The same method of requiring plans and memoirs, as above described, is followed in this course.

*Architecture and Civil Engineering.* Section A. Architecture, elements of architectural forms. Discussion of different buildings, public and private, masonry, carpentry, joiner's work, lock-smith's work, roofing, foundations, estimates, plans. The students visit different works in the course of erection, and are exercised in drawing plans and in taking levels. Section B. Roads; bridges of stone and wood; suspension bridges; movable bridges; river navigation; canal navigation; supply and distribution of water.

*Geognosy and Mining.* Section A. Geography, physical geography, mineralogy, geology. The principal mineral and geological species are presented to the students, and excursions are made in summer, in the neighbourhood of Paris, for practice. Section B. 1. Mining. General principles. Means of excavation. Working of Mines. Details of working. Mining jurisprudence. 2. General metallurgy. Mechanical preparation of the ores. Reduction and refining of the different metals.

*Special Metallurgy of Iron.* Section A. Smelting furnaces and foundries. Treatment of ores to obtain cast iron. Refining of iron. Section B. Manufacture of iron and steel.

SPECIAL COURSES FOR THE THIRD YEAR.

*The Steam-engine,* with the details of its construction, varieties, and applications.

*Rail-roads.* Their construction, and the means of locomotion upon them.

The students are examined daily upon the subjects of their lectures, by the professors and repeaters. The utility of this latter class of teachers is well established in France, and they are found in every institution in which lecturing is practised to a great extent as a means of instruction; they prevent the burthen of teaching from falling upon professors, whose duty it is to be engaged in advancing, as well as in propagating science, and who would be prevented from following one or

other of these honourable and useful careers, by having the duty of teaching superadded to that of lecturing. So well is the necessity of relieving the professor understood, that in all courses requiring preparation, special persons are appointed, called preparers, who take off this burthen also from the professor. The result is, that many men of high eminence are thus enabled to diffuse their knowledge among students by lecturing, and are willing to do so, though they have other and more profitable employments, to which they would exclusively confine themselves, if this were connected with teaching by interrogation and the task of preparing experimental illustrations. The pupil is thus greatly the gainer, and has at the same time the special examination upon the lectures which is so necessary to complete the instruction, and to which a repeater is entirely competent. Young men of talent seek the situations of repeaters as the best method of showing their particular qualifications, and the most certain road to a professorship. For each recitation the pupil receives a mark, and the roll of the class with these marks being preserved, its indications are combined with the results of the examination, to decide upon the fitness of a pupil when he comes forward for a diploma.

The graphic exercises consist in the drawing of ornamental work, in India ink drawing, in drawing with the steel pen and instruments, and in sketching the diagrams of the lectures to a scale. Great importance is attached to this part of the course, and much time spent in it. The rooms for these exercises are conveniently arranged, and the pupils are superintended during them by a professor or a repeater, and visited occasionally by the director of studies or his deputies. The drawing-tables are so arranged that the pupils stand while at work, which at their age is very desirable.

The arrangements for chemical manipulation by the students are very complete; they have access not only to the laboratories of the two professors, but to others which are devoted to special branches. During the first year every student is employed in laboratory duty once a week, and has also the oppor-

tunity of performing some of the principal physical experiments. They are superintended, while thus occupied, by repeaters. During the first half year of the second course the students are called, in turn, to general duty in the laboratory; and during the second half of the same year, and the whole of the third, the two sections who follow the courses of chemistry applied to the arts and metallurgy, are employed in manipulations connected with them. There is an officer for their superintendence, called the director (chef) of the chemical exercises, who is subordinate to the professor of chemical analysis. The opportunities thus afforded of acquiring a general practice under the guidance of the distinguished professors of this school are invaluable, and form one of the most important features of the establishment.

The materials for constructing models of some of the more useful works, and apparatus relating to the arts, are *furnished* to the pupils, and used under the direction of their instructors. The collections of mathematical and physical apparatus, and in technology, are very respectable, and are increasing, it being clearly understood by those who control the school, that these and similar collections are of essential importance to the success of the courses. There is a library of works relating to the arts, which is open to students of the first and second classes on stated days, and during particular hours, for consultation.

The practical application of the subjects taught is early introduced to the students by problems, requiring more or less *ingenuity* in their solution; from these the next step is to require the detailed plan of some simple work, and from this the exercise rises to the drawings, estimates, and descriptive memoir accompanying the supposed arrangement of some complex establishment for manufacturing or other purpose of the arts.

No attempt is made to connect practice in the use of mechanical tools with that in general manipulation, even as a special course, a point to which I shall have occasion to recur, as one of the questions of most doubtful solution relating to this class of schools.

At the close of each year the pupils are examined, and from the results of this trial, combined with their marks for the year, and the graphic exercises which they present, is determined according to the class to which the pupils belong, whether they shall be allowed to pass on to the next higher class, or to receive their diploma. The course begins on the tenth of November, and terminates in July. The examinations are completed before the tenth of August.

*Graduation of the pupils.* The student who goes through the courses of the school satisfactorily, and passes a final examination upon all the matters required of him, receives the diploma of civil engineer. One who does not come up to the requirements in all the branches may, nevertheless, receive a certificate of capacity in those where his attainments are sufficient.

Students of the third class, who are candidates for graduation, begin the exercises for that purpose on the fifteenth of June, and have forty days to prepare them. Each of the four sections into which the pupils are divided, namely, mechanicians, constructors, chemists, and metallurgists, are expected to complete a different exercise, consisting of a plan or project of an establishment, the drawings in relation to which must be made in the school, and which must be accompanied by a descriptive memoir. Every student is examined upon his work, and must explain and defend it. The drawings and memoirs thus executed become the property of the school, and are frequently very useful in the instruction.

The strictness of the council of studies, in exacting high qualifications for diplomas, has had the effect of placing the character of this school in so fair a point of view, that its graduates have no difficulty in finding places; on the contrary, indeed, they are in request for the employments which the institution certifies that they are able to fill. An abstract from the list of the employments of students who had left the school with diplomas or certificates, within the six years preceding 1837–8, will serve to show that the pupils are engaged in occupations for which the courses were intended to qualify them, and that thus the institution actually accomplishes what it professes. The record does

not, however, include all those who have left the school with its diploma or certificate, there being some whose occupations have not been reported to the authorities. The number included in the list is ninety, of which twenty-four are civil engineers, eleven manufacturers, eleven machinists and constructors of manufactories of various kinds, nine miners, eight constructors of iron work, seven engaged in iron works, six professors of chemistry, mathematics and mechanics, four manufacturing chemists, three preparers and repeaters in chemical courses, two architects, one engineer of a gas-works, one assayer, three officers connected with civil and military service and trade.

This institution, though in the beginning only a private enterprise, has been entirely successful, and supplies to young men who are out of the government civil service, facilities for acquiring knowledge, similar to those which the Polytechnic School, and the Schools of Mines and Roads and Bridges, do in that service.

### SCHOOL OF COMMERCE AND THE INDUSTRIAL ARTS, AT CHARONNE.*

This institution is a private boarding-school, furnishing instruction in the usual literary branches, as well as those preparatory to commerce, the mechanic arts, and manufactures. The pupils are divided into three sections, corresponding to these three purposes. The peculiarity of the school, which is worthy of especial notice, is the establishment of a general machinist's shop on the premises, and in which the pupils belonging to the division of the arts, and others, whose parents desire it, are employed a certain number of hours of the day. As this is a private undertaking, not aided by government funds, economy in this last feature is of course particularly desirable. On trial, it has been found only attainable by leasing the machine-shops to a skilful mechanic, who in return binds himself to take and instruct the pupils, under certain regulations. This arrange-

* M. Pinel Grandchamp, director.

ment has the disadvantage that, instead of seeing a variety of work, the pupils are frequently confined to one kind, according to the description of orders taken by the lessee of the shops. The plan of varied work, in which the pupils were employed during certain hours of the day, as apprentices, was found too expensive. The difficulties of practical education in these branches, out of the regular work-shops, will be referred to again.

## SCHOOLS OF ARTS OF PRUSSIA.

In Prussia, every trade in which a want of skill may jeopard human life, is regulated by law; and before its exercise can be commenced, a license is required, to obtain which an examination must be passed. This requisition of the law is considered to involve a reciprocal obligation on the part of the government to afford the opportunity of obtaining the necessary knowledge, and schools have accordingly been established for the purpose. Twenty of the regencies of the kingdom already have technical schools established in them, where instruction is, in general, given at the expense of the state, or province, or for a very trifling remuneration; and it is the intention that each regency shall have at least one such school within its limits. When there is a burgher school in the place intended as the locality for one of these technical schools, the two schools are connected as already described, at Potsdam, the special technical course alone being given in a separate department. In all cases the government supplies the apparatus for the courses of mechanics, physics, and chemistry; furnishes the requisite engravings for the courses of drawing; and supplies works for the library and for instruction. The courses are intended to reach the grade of the lower class of the Berlin Institute of Arts, to be subsequently described, a purpose which is actually accomplished in a part of the schools. Some of the communes have erected schools similar to these, at their own expense, or have aided in establishing or improving the provincial schools. The cost of these twenty schools, annually, is between seven and ten thousand dollars.

The most promising pupils from the provincial schools usually

find places at the central Institute at Berlin, which is in fact the university of arts.

There is a special school for ship-builders at Stettin, in Pomerania.

### INSTITUTE OF ARTS OF BERLIN.*

This institution is intended to impart the theoretical knowledge essential to improvement in the arts, and such practical knowledge as can be acquired to advantage in a school. It is supported by the government, and has also a legacy, to be expended in bursaries at the school, from Baron Von Seydlitz. The institution is under the charge of a director,† who has the entire control of the funds, of the admissions and dismissions, and the superintendence of the instruction. The professors and pupils do not reside in the establishment, so that the superintendence is confined to study-hours. There are assistant professors, who prepare the lectures, and conduct a part of the exercises, in some cases reviewing the lessons of the professors with the pupils. Besides these officers there are others, who have charge of the admirable collections of the institution, and of the work-shops, offices, &c. The number of professors is eight, and of repeaters, two. The discipline is of the most simple character, for no pupil is allowed to remain in connexion with the institution unless his conduct and progress are satisfactory. There is but one punishment recognised, namely, dismission; and even a want of punctuality is visited thus severely.

In the spring of every year the regencies advertise that applications will be received for admission into the institute, and the

* Gewerbinstitut, literally, trade institute. I am indebted to the director, privy counsellor Beuth, for a lithographic outline and programme of this institution, and to the Hon. Henry Wheaton, minister of the United States at Berlin, for an account of the industrial schools of Prussia, by Captain Beaulieu, Belgian chargé d'affaires at Berlin. M. Beuth gave me every facility in visiting the institution.

† The director, M. Beuth, is also president of the Royal Technical Commission of Prussia, and has the distribution of the funds for the encouragement of industry, amounting to about seventy-five thousand dollars annually. M. Beuth is also a privy counsellor, and is president of the Society for the Encouragement of National Industry in Prussia.

testimonials of the candidates who present the best claims are forwarded to the director at Berlin, who decides finally upon the several nominations. The pupils from the provincial schools have, in general, the preference over other applicants. At the same time notice is given by the president of the Society for the Promotion of National Industry, in relation to the bursaries vacant upon the Seydlitz foundation. The qualifications essential to admission are—to read and write the German language with correctness and facility, and to be thoroughly acquainted with arithmetic in all its branches. The candidate must, besides, be at least seventeen years of age. Certain of the pupils, as will be hereafter more fully stated, require to have served an apprenticeship to a trade. The Seydlitz bursars must, in addition, show—1st. That their parents were not artisans,* relatives of the founder having the preference over other applicants. 2d. That they have been apprenticed to a trade, if they intend to follow one not taught in the institution. 3d. They must enter into an engagement that if they leave the mechanical career they will pay back the amount of their bursaries. There are sixty or seventy gratuitous pupils in the school, of whom eighteen are upon the Seydlitz foundation. Forty are admitted annually, this number having been adopted because it is found that, in the course of the first month, about a fourth of the newly admitted pupils fall away from the institution. Each bursar receives two hundred and twenty-five dollars per annum for maintenance. The education is gratuitous. The regular pupils enter on the first of October, but the director is authorized to admit, at his pleasure, applicants who do not desire to become bursars, but who support themselves, receiving gratuitously, however, the instruction afforded by the institution.

The education of the pupils is either solely theoretical, or combines theory and practice, according to the calling which they intend to follow. The first division is composed of students,

* The object of M. Von Seydlitz appears to have been to counteract, to the extent of his power, the tendency to the increase of the learned professions, at the expense of the mechanic arts, by an inducement to a course exactly contrary to the usual one.

who receive theoretical instruction only, and who are preparing to become masons, carpenters, and joiners. They are supposed to have become acquainted with the practice of their trade before entering the institution, being required to have served, previously, a part of their apprenticeship. An excellent reason is assigned for this rule, namely, that on leaving the school such pupils are too old to begin their apprenticeship to these callings, and would, if they attempted to do so, find the first beginnings so irksome as to induce them to seek other employments, and thus their special education would be lost, and the object of the school defeated. The second division embraces both theoretical and practical instruction, and consists of three classes. First, the stone-cutters, engravers, lapidaries, glass-cutters, carvers in wood and ivory, and brass-founders. Second, dyers and manufactures of chemical products. Third. Machine-makers and mechanicians. The practical instruction is different for each of these three classes.

The general course of studies last two years, and the pupils are divided into two corresponding classes. The first class is, besides, subdivided into two sections. The lower or second class is taught first; mechanical drawing, subdivided into decorative drawing, including designs for architectural ornaments, utensils, vases, patterns for weaving, &c., and linear drawing, applied to civil works, to handicrafts, and to machines. Second, modelling in clay, plaster, and wax. Third, practical arithmetic. Fourth, geometry. Fifth, natural philosophy. Sixth, chemistry. Seventh, technology, or a knowledge of the materials, processes, and products of the arts. The studies of the lower section of the first class are general, while those of the first section turn more particularly upon the applications of science to the arts. In the lower section, the drawing, modelling, natural philosophy, and chemistry, of the first year, are continued; and, in addition, descriptive geometry, trigonometry, stereometry, mixed mathematics, mineralogy, and the art of construction are studied. In the upper or first section, perspective, stone-cutting, carpentry, and mechanics applied to the arts, are taught, and the making of plans and estimates for buildings, work-shops,

manufactories, machines, &c. These courses are common to all pupils, whatever may be their future destination; but beside them, the machinists study, during the latter part of their stay at the institution, a continuation of the course of mechanics and mathematical analysis. The examples accompanying the instruction in regard to plans and estimates are adapted to the intended pursuits of the pupils.

The courses of practice are begun by the pupils already enumerated as taking part in them, at different periods of their stay in the institution. The future chemists and mechanics must have completed the whole range of studies above mentioned, as common to all the pupils, while the others begin their practice after having completed the first year's course. There are work-shops for each class of pupils, where they are taught the practice of their proposed calling, under competent workmen. There are two foundries for bronze castings, one for small, the other for large castings, and the work turned out of both bears a high character. A specimen of this work is retained by the institution in a beautiful fountain, which ornaments one of the courts of the building. The models for castings are made in the establishment. In the first division of pupils, in reference to their callings, there are usually some whose art is connected with the fine arts in some of its branches, and these have an opportunity during part of the week to attend the courses of the Berlin Academy. The future chemists work for half the year in the laboratory. They are chiefly employed in chemical analysis, being furnished with the requisite materials for practice by the institution. In the shops for the instruction of mechanics are machines for working in wood and the metals, a steam-engine of four horses' power, a forge, tools in great variety, lathes, &c. The pupils have the use of all necessary implements, according to their progress, and are gradually taught, as if serving a regular apprenticeship. When capable, they are enabled to construct machines which may be useful to them subsequently, as a lathe, or machine for cutting screws, or the teeth of wheels, &c., and are furnished with all the materials for the purpose, the machine becoming their own property. In these work-shops, also, the

models for the cabinet of the school are made. This is by far the most complete establishment for practice which I met with in any institution, and I believe the practice is both real and effectual. It involves, however, an expenditure which in other cases it has not been practicable to command. The scale of the whole institution is, in the particular of expenditure, most generous.

This is one specimen of the various plans which have been devised to give practical knowledge of an art in connexion with theory in a school. It is first most judiciously laid down that certain trades cannot be taught to advantage in a similar connexion, but that the practical knowledge must be acquired by an apprenticeship antecedent to the theoretical studies. There are besides, however, a large number of trades, the practice of which is to be taught in the institution, and requiring a very considerable expenditure to carry out the design properly. This could not be attempted in a school less munificently endowed, and requires very strict regulations to carry it through even here. The habits of a school work-shop are, in general, not those of a real manufactory, where the same articles are made to be sold as a source of profit; hence, though the practical knowledge may be acquired, the habits of work are not, and the mechanic may be well taught but not well trained. At the private school of Charonne, work-shops were established, giving a variety of occupation to the pupils; but the disposition to play rather than to work, rendered these establishments too costly to be supported by a private institution, and the plan adopted instead of this, was to make the pupils enter a regular work-shop for a stated number of hours, to work for the proprietor or lessee. This plan remedies one evil, but introduces another, that as the machinist takes orders, with a view to profit, the work may have so little variety as only to benefit a small class of the pupils. The pupils at Charonne are, however, under different circumstances from those at Berlin; they are generally younger, and, being independent of the school, where they pay for their education, are not under the same restraint as in the other institution; hence the experience of the one school

does not apply in full force to the other. At Dresden, in a school somewhat similar to that of Berlin, a different mode from either of those just mentioned has been adopted. An arrangement is made with a number of mechanics, of different occupations, to receive pupils from the schools as apprentices, allowing them the privilege of attending, during certain specified hours of the day, upon the theoretical exercises of the institution. Where such an arrangement can be made, the results are unexceptionable, and the advantages likely to accrue to the mechanic arts, from the union of theory with practice, will offer a strong inducement to liberally disposed mechanics to take apprentices upon these terms. Small work-shops, connected with an institution, must necessarily offer inferior advantages, even if closely regulated, so as to procure the greatest possible amount of work from the pupils; this should not be done for the sake of the profit, but to give him genuinely good habits.

The difficulties in giving practical instruction in the chemical arts are not to be compared with those under discussion, and will be found to have been satisfactorily obviated in several schools. This subject will receive its more appropriate discussion in connexion with the polytechnic institution of Vienna, where the chemical department, at least as far as manufacturing chemistry is concerned, is generally recognised as having produced the best results of any yet established.

Returning to the subject of the theoretical instruction in re, Berlin institute of arts, the following statement will serve in show the succession of the courses, with the time devoted e each:—

WINTER COURSE.

MONDAY. *First Class.* First division—drawing and sketching machines, eight A. M. to twelve o'clock. Discussion of machines, estimates of power, &c., two P. M. to five P. M. Second division—machine drawing, eight to ten. Modelling in clay, ten to twelve. Physics, two to five.

*Second Class.* Machine-drawing, eight to ten. Modelling, ten to twelve. Elements of geometry, two to four. Repetition of the lecture, four to five.

TUESDAY. *First Class.* First division—architectural plans and estimates, eight to twelve. Practical instruction in machinery, two to five. Second

division—ornamental and architectural drawing, eight to twelve. Trigonometry, two to five.

*Second Class.* Ornamental and architectural drawing, eight to twelve. Physics, two to four. Repetition of the lecture, four to five.

WEDNESDAY. *First Class.* First division—original designs, eight to twelve. Discussion of machinery. Second division—mineralogy, eight to nine. Machine-drawing, nine to twelve. Trigonometry, two to five.

*Second Class.* Machine-drawing, eight to twelve. Practical arithmetic, two to five.

THURSDAY. *First Class.* First division—Drawing and sketching machines, eight to twelve. Architectural instruction, estimates, two to five. Second division—decorative and architectural drawing, eight to ten. Modelling in clay, ten to twelve. Trigonometry, two to five.

*Second Class.* Decorative and architectural drawing, eight to ten. Modelling in clay, ten to twelve. Physics, two to four. Repetition of the lecture, four to five.

FRIDAY. *First Class.* First division—architectural plans, eight to twelve. Practical instruction in machinery, two to five. Second division—machine-drawing, eight to twelve. Physics, two to five.

*Second Class.* Machine-drawing, eight to twelve. Elementary mathematics, two to four. Repetition of the lesson, four to five.

SATURDAY. *First Class.* First division—perspective and stone-cutting, eight to twelve. Original designs, two to five. Second division—mineralogy, eight to nine. Decorative and architectural drawing, nine to twelve. Trigonometry, two to five.

*Second Class.* Decorative and architectural drawing, eight to twelve. Practical arithmetic, two to five.

The summer term, which follows this, embraces the practical instruction.

### SUMMER TERM.

MONDAY. *First Class.* First division—in the work-shops from seven A. M. to twelve, and from one until seven P. M. Second division—machine-drawing, eight to twelve. Applied mathematics, two to five.

*Second Class.* Machine-drawing, eight to ten. Modelling, ten to twelve. Chemistry, two to four. Repetition, four to five.

TUESDAY. *First Class.* First division—analytical dynamics, eight to nine. Drawing of machines from original designs, nine to twelve. Machinery, two to five. Second division—decorative and architectural drawing, eight to twelve. Chemistry two to five.

*Second Class.* Decorative and architectural drawing, eight to twelve. Elementary mathematics, two to four. Repetition, four to five.

WEDNESDAY. *First Class.* First division—in the workshops from seven to twelve, and from one to seven. Second division—machine-drawing,

eight to ten. Modelling, ten to twelve. Applied mathematics, two to five.

*Second Class.* Machine-drawing, eight to twelve. Practical arithmetic, two to four. Materials used in the arts, four to five.

THURSDAY. *First Class.* First division—in the work-shops from seven to twelve, and from one to seven. Second division—machine-drawing, eight to ten. Modelling, ten to twelve. Applied mathematics, two to five.

*Second Class.* Decorative and architectual drawing, eight to ten. Modelling, ten to twelve. Chemistry, two to four. Repetition of the lesson, four to five.

FRIDAY. *First Class.* First division—analytical dynamics, eight to nine. Drawing of a machine for an original design, nine to twelve. Machinery, two to five. Second division—chemistry, eight to nine. Applied mathematics, nine to twelve. Chemistry, two to five.

*Second Class.* Machine-drawing, eight to twelve. Elementary mathematics, two to four. Repetition of the lesson, four to five.

SATURDAY. *First Class.* First division—in the work-shops from seven to twelve, and from one to seven. Second division—decorative and architectural drawing, eight to twelve. Applied mathematics, two to five.

*Second Class.* Decorative and architectural drawing, eight to twelve. Practical arithmetic, two to four. Materials used in the arts, four to five.

The chemical division of the practical classes is engaged every day in the laboratory. On Tuesday and Wednesday the library is open for reading from five to eight, P. M.

The collections for carrying out the various branches of instruction are upon the same liberal scale with the other parts of the institution. There is a library of works on architecture, mechanics, technology, the various arts, archeology, &c., in German, French and English. This library is open twice a week, from five to eight in the evening, to the pupils of the first class of the school, and to such mechanics as apply for the use of it.

There is a rich collection of drawings of new and useful machines, and of illustrations of the different courses, belonging to the institution. Among them is a splendid work, published under the direction of Mr. Beuth, entitled Models for Manufacturers and Artisans (Vorlegeblätter fur Fabricanten und Handwerker), containing engravings by the best artists of Germany, and some even from France and England, applicable to

the different arts and to architecture and engineering. Among the drawings are many from original designs by Shenckel, of Berlin.* There is a second useful but more ordinary series of engravings, on similar subjects, also executed for the use of the school. These works are distributed to the provincial trade schools, and presented to such of the mechanics of Prussia as have especially distinguished themselves in their vocations. The collection of models of machinery belonging to the school probably ranks next in extent and value to that at the Conservatory of Arts of Paris. It contains models of such machines as are not readily comprehended by drawings. Most of them are working models, and many were made in the work-shops of the school. They are constructed, as far as possible, to a uniform scale, and the parts of the models are of the same materials as in the actual machine. There is an extensive collection of casts, consisting of copies of statues, basso-relievos, utensils, bronzes, and vases of the museums of Naples, Rome, and Florence, and of the British Museum, and of the models of architectural monuments of Greece, Rome, Pompeii, &c., and copies of models, cameos, and similar objects; those specimens only have been selected which are not in the collection of the Academy of Fine Arts of Berlin, to which the pupils of the Institute of Arts have access. There are good collections of physical and chemical apparatus, of minerals, of geological and technological specimens.

The instruction is afforded in part by the lectures of the professors, aided by text-books specially intended for the school, and in part by the interrogations of the professors and of the assistants and repeaters. At the close of the first year there is an examination to determine which of the pupils shall be permitted to go forward, and at the close of the second year to determine which shall receive the certificate of the institute. Although the pupils who come from the provinces are admitted

* A copy of this work has been most liberally presented to the Girard College by the Technical Commission, of which Mr. Beuth is president. The work having been published by the government, is not sold.

to the first class of the institute, upon their presenting a testimonial that they have gone through the courses of the provincial schools satisfactorily, it frequently happens that they are obliged to retire to the second, especially from defective knowledge of chemistry.

The cost of this school to the government is about twelve thousand dollars annually, exclusive of the amount expended upon the practical courses and upon the collections—a very trifling sum, if the good which it is calculated to do throughout the country is considered. The comparatively recent existence of the institution does not admit of appealing to decided results which have flowed to the mechanic arts in Prussia from its establishment, but there can be no doubt of its tendency, and its pupils are already known to be making their way successfully, in consequence of the advantages which they have here enjoyed.

## POLYTECHNIC INSTITUTE OF VIENNA.

This is one of the most flourishing polytechnic institutions of Germany, and its characteristics are so different from those of the institute at Berlin, that there is little danger of repetition in describing this school also.

The whole institution is intended to fulfil a threefold purpose—as a school for the mechanic arts, manufactures, and commerce, as a conservatory of arts and manufactures, and as an institute for the promotion of national industry. The last named object is effected by public exhibitions, from time to time, of the products of manufactures, under the direction of the institute. For the better execution of this object, a spacious building is now erecting on the premises, adapted to the occasional display and permanent deposite of specimens of the mechanic arts. The collections which form the conservatory of arts are also used for instruction in the school, and will be described in connexion with it.

The whole institution is under the control of a director,* who

* M. J. J. Prechtel, formerly professor of chemistry.

is responsible to the higher authorities of public instruction, and of trade and manufactures. The director is the general superintendent of the business of the institute and of the instruction, but does not teach. He regulates the admission of pupils and the discipline. The money concerns are under the charge of a treasurer, who is responsible to the director. The inferior officers are responsible to the same authority. The discipline of the scholastic department is simple but rigid, no pupil being allowed to remain connected with it whose deportment is not proper. The courses are gratuitous, except a small entrance fee, and this is considered as warranting prompt removal when the pupil does not perform the duties prescribed by the institution.

The department of instruction is composed of three schools, a technical, a commercial, and a "real school." The last named is a preparatory school for the two others, and may be entered as early as thirteen years of age. Its courses are of religious instruction, of German language, elementary mathematics, geography, history, natural history, elocution, calligraphy, and drawing, and are obligatory upon the pupils. Italian and French may be studied if the pupil desires it. As these courses lead in three years to the other departments of the institution, the candidates for admission are required to possess the elementary attainments necessary to their successful prosecution. There are five professors and four teachers connected with this school, which is superintended by the vice-director of the institute. The instructors rank by regulation with those in the gymnasia or classical schools of the empire. The course of instruction is not as comprehensive as that in the Prussian real schools, but is an adequate preparation for the next higher divisions, which supply in part these deficiencies.

The technical and commercial schools furnish special instruction according to the intended pursuits of the pupil, though he may, in fact, select the courses which he wishes to attend, not being limited as to the number or character of the branches. The director advises with the pupil, on admission, as to the studies most appropriate to be followed, if his intended calling

is fixed, and he is not allowed to join the classes, the courses of which require preparation, without presenting a certificate from the school at which he has been instructed, or being examined, to ascertain his proficiency. In regard to other courses, there is no such restriction. The age for admission is sixteen years.

The instruction is given in the technical school by eight professors and two assistants; the professors lecturing, and in some of the courses, interrogating the pupils. Certain lectures are also gone over by the assistants with the classes. The courses which combine practice with teaching will be pointed out in enumerating the subjects of study. The division of these subjects, and the time devoted to them during the week, are as follows:

*I.* General Chemistry, applied to the arts, five hours.

*II.* Special Technical Chemistry, ten hours. This course gives a particular account of all the processes of the arts of which the principles were developed in the general lectures. There is a special laboratory devoted to the course, where, under the superintendence of the professor or of his assistants, the pupils go through the processes on a small scale. Those who have a particular object in view, as dyeing, bleaching, printing upon stuffs, or the manufacture of chemical preparations or metallurgy, are directed in their investigations especially to the parts of chemistry which they will have to apply. Practice and theory are thus combined. *III.* Physics, with special reference to its applications, five hours. *IV.* Elementary Mathematics, including arithmetic, algebra, geometry, and mensuration, ten hours. This course is intended for those who have not passed through the real school. *V.* Higher Mathematics, five hours. There is a repetition by an assistant, also of five hours. *VI.* Mechanics, including the description and calculation of machines, five hours. This subject is founded upon a course of machines, considered as an application of descriptive geometry and drawing, superintended by an assistant. *VII.* Practical Geometry, including land and topographical surveying, levelling, &c., five hours. The lectures are accompanied by practice in the use of instruments in the field. *VIII.* Civil and Hydraulic Architecture, ten hours. This includes a complete course of engineering, in its various branches. It is accompanied by exercises in drawing. *IX.* Technology, or a general discussion of arts and trades, five hours. The subjects which come under the head of special chemistry are omitted in the lectures of this division. *X.* The assistant professor of chemistry delivers an extra lecture, daily, on the methods of measuring Specific Gravities, during part of the course. *XI.* Elementary Drawing for those who have not passed through the real school, five hours. There are extra courses in the Latin, Bohemian, and English languages, for those who wish to follow them.

The time devoted to drawing depends upon the student, but

it is obvious that his knowledge must be very incomplete, and that he will carry away from the school but an imperfect record of descriptive geometry and its applications, unless he devotes a great deal of time to this branch. In this respect the arrangement of the school is entirely different from that at Berlin, where the drawings accompanying the courses are made as much a matter of regular duty as the attendance upon the lectures themselves. This is certainly the proper plan, and while it appeared to me that the time spent in the graphic exercises at Berlin was even beyond the measure of their importance, I am decidedly of opinion that a strict attention to this department is essential.

The collections, by the aid of which these courses are carried out, are—1. An extensive collection of chemical preparations for both special and general chemistry. The pupils in special chemistry, as already stated, make preparations in the departments of the art which they intend to follow, and some of these are left behind them as specimens of their skill. In the department of the dyer there is quite a large series of specimens collected in this way. The laboratories for both special and general chemistry are admirably adapted to their purpose.* 2. A cabinet of instruments for the course of practical geometry. 3. A considerable collection of physical apparatus. 4. A collection of models of machines, and in engineering. 5. A technological cabinet of a most complete character, and admirably arranged; it contains many of the best specimens of Austrian arts and manufactures. *All these* collections are under the care of the professor in whose department they find a place; there being, besides, curators for the immediate charge of them, and for keeping them in repair. The cabinet of physical apparatus, and of models and machinery, were in the main supplied from the work-shops of the institution. These shops have long been celebrated for the

* The laboratory of the professor of general chemistry, Professor Meissner, is one of the best arranged which I saw abroad. The furnace operations, and others likely to incommode the class, are performed behind a screen, with large glass windows, which allow a perfect view: the space behind is provided with the means of carrying off the fumes.

astronomical and geodesic instruments furnished from them. They are still kept up, though on a reduced scale, their chief object having been accomplished. They were never intended, like those of Berlin, to afford practical instruction to the pupils. The institution, indeed, does not recognise the principle that this can be done to advantage in the mechanical department. It is certain, as already stated, that great care is required to render such establishments of any avail beyond the point of giving to the pupil a general readiness with his hands, and that even when well conducted they are expensive. Success in practical chemistry requires essentially a very considerable knowledge of theory; the processes on a small scale represent, in general, fairly those upon the large, and experiments thus made frequently save the outlay which is required to make them in the large way. The practice in the laboratory of a school is, besides, very nearly of the kind required for the manufactory. These, among other circumstances, render the problem in regard to successful preparation for the arts depending upon chemistry, different from that relating to the art of the machinist. It is in this department that the polytechnic school of Vienna is particularly strong. There can be no doubt that Austrian manufactures in general have received a great impulse through the medium of this institution, and particularly of its scholastic department, but while praise is yielded to the different courses, the arrangements for teaching chemistry must be considered as having a preference over the others.

The lessons in the commercial school embrace the following subjects:—I. Commercial correspondence, three hours per week. II. The science of trade (Handelswissenschaft), three hours. III. Austrian laws relating to trade and exchange, three hours. IV. Commercial arithmetic, six hours. V. Book-keeping, by single and double entry, four hours. VI. Account of the materials of trade (Waarenkunde), their sources, uses, properties, kinds, adulterations to which they are subject, &c., four hours. VII. Commercial geography, three hours. VIII. History of commerce, three hours. There are five professors in this school.

Once a week the professors of the institute meet, under the presidency of the director, to confer on the business of the institution. Saturday is appropriated in part to this purpose, and there are no exercises for the students on that day. One of the professors is secretary of the Board. The professors rank by regulation with those of the universities.

The lectures last from October to August of every year. At the close of them, a pupil who wishes a certificate in any branch, presents himself, and is examined by a professor, in presence of the director and of two members of the imperial commission of studies. A student who has attended the lectures, and does not wish to be examined, may receive a certificate of attendance.

To supply the place of a regular division of studies for different callings, one of the earlier programmes contained a recommendation of certain courses of study as preparatory to particular occupations. The recommendations were the following:—For tradesmen, the two years of the real school, and one year of the commercial school; or for a more complete education, an additional year, embracing the courses of chemistry, physics, and technology of the technical school. For dyers, printers in stuffs, bleachers, manufacturers of chemical products, of salt, of saltpetre, for miners, metallurgists, brewers, &c.—special chemistry, physics, and technology, with some of the courses of the commercial school. For machinists, hydraulic engineers, mill-wrights, foremen in manufactories, and mining engineers—a course of two years was recommended, the first to embrace mathematics, physics, and drawing, and the second, mechanics, machine-drawing, and technology. As a preparation for agriculturalists and foresters—courses of mathematics, physics, practical geometry, chemistry, and book-keeping. For miners—mathematics, physics, practical geometry, mechanics, drawing, and book-keeping. For surveyors—mathematics, physics, practical geometry, drawing, and book-keeping.

There is still a regular course laid down for architects and civil engineers, the satisfactory completion of which entitles to a diploma. The first year includes elementary mathematics,

technology, and drawing; the second, higher mathematics, physics, and drawing; the third, the applied mathematics, mechanics, practical geometry, and drawing; the fourth, architecture, engineering, drawing, technology, chemistry, and bookkeeping.

The library of the institute is appropriated to the several departments, and is used by the students, as well as by the professors. Yearly appropriations, besides the entrance and diploma fees, are devoted to its increase. The professors have the right of recommending such works to be purchased as they may deem of use in their departments. An annual is published by the institute, consisting of original and selected scientific articles, by the professors, and notices of the institution.

## SAXON SCHOOL OF MINES AT FREYBURG.

This celebrated school is in one of the richest mining districts of Saxony, and the proximity of the mines permits an easy combination of practice with theory. Its first object is to furnish educated young men for the corps of mines of the kingdom, but it also admits strangers to its courses at a trifling expense for their instruction, the pupils boarding in the town.

*General government.* The school of mines is under the immediate government of the directory of mines (oberbergamt), and is thus a branch of the ministry of finance. The professors form a Board for the execution of the general regulations, and one of them is specially charged by the directory with the superintendence of the instruction and discipline.

*Admission.* Applications for free admission to the institution are made to the directory of mines, and must be accompanied by certificates that the applicant is between sixteen and twenty-three years of age, is of good moral character, in sound health, writes German correctly, and understands the grammar of the language; has made some proficiency in geography and history, can read easy Latin authors, is acquainted with arithmetic, the elements of geometry, and has made a beginning in drawing. If he understands the French or English language, it is a recommendation. The testimonials must be handed between the

months of January and June, and the directory decide which of the applicants may present themselves for examination before the professors of the school. Those found qualified in all the courses enter, and others may, in particular cases, be allowed to join the classes, undergoing subsequently an examination in the studies on which they were defective. According to an edict of the German diet, in regard to the attendance of foreigners upon the scholastic institutions of any of the German states, strangers must apply to the minister of finance for permission to attend the school and present a testimonial of character and proficiency, and the written expression of their parents' wish that they should attend the school. Admission is, however, freely granted. Those pupils who are in part, or entirely, supported by the government, are divided into two classes. The first division includes the regular students, called beneficiaries (beneficianten), who pass through a course of four years at the school, and become candidates for the corps of mines; the other is composed of those who enter for places not requiring more than one or two years of study, or who have passed a superior examination for admission, but cannot enter as regular students, in consequence of the want of a vacancy in the corps. Besides these there are two other divisions, namely, Saxons, who pay their own expenses at the school, and foreigners. These different divisions are distinguished by characteristic differences in the uniform which they wear. The gratuitously educated students come under an obligation at entering, in event of leaving the service of the government, to refund the pay which they may have received, and to pay the cost of their tuition. The regular pupils receive a pay proportioned in general to the length of time which they have been in the school. The first class receives from twenty-two to thirty dollars per annum; the second, from fifteen to twenty-two; the third, from seven to fifteen. The fourth class receive only the compensation to which they may be entitled for their work in the mines. In 1837–8 there were in the school nineteen regular pupils, eighteen extra pupils, and others admitted gratis, two Saxon pay pupils, and eighteen foreigners, making a total of fifty-seven. Of the foreigners, five

were Russians, two South Americans, and two Englishmen. This school is essentially different in its organization from the school of mines of France. The latter institution is supplementary to the polytechnic school, furnishing the special instruction required by the candidates for the corps of mines who have passed through the general courses of the polytechnic school. The Saxon school begins at a lower level in attainment than the polytechnic school, and instructs future miners only, the special object being never lost sight of throughout the student's career. In the opportunities for practice, it resembles more nearly the miners' school of St. Etienne than the school of mines at Paris; while, then, the courses of instruction here have necessarily many points of resemblance to those of the polytechnic school and the school of mines of France, an acquaintance with these institutions would not serve at all as a guide to the arrangements of the Saxon school.

*Instruction.* The courses of instruction are divided into those which are to be pursued by all the pupils, or general, and those which depend upon the branch to which they intend devoting themselves, or special. The first consist of elementary, higher, and applied or mixed mathematics, mechanics and the machinery of mines, general, analytical, and special or technical chemistry, physics, drawing, general and topographical, of shades, shadows, and perspective, and of mining implements, of mining and metallurgic machines and constructions, oryctognosy (mineralogy), geognosy (geology), crystallography the art of mining, metallurgy, civil engineering, mining jurisprudence and correspondence, the French language. The second or special courses consist of the surveying of mines and land surveying, the keeping of books, registers, &c., of fossil geology, for those who are intended as miners, and of the examination of minerals, and analytical chemistry, with special reference to the ores of Saxony, for those who are to serve at the furnaces.

These courses are pursued by the regular students according to the following plan:—The first year is devoted to elementary mathematics, to physics, to geognosy, to general and topographical drawing, to French, and to general practical operations

of mining and metallurgy. All these pupils are allowed at certain times to be present in the mines and at the furnaces, under the charge of miners and smelters, who act as instructors, and who report at the end of the year upon the character of their pupils.

During the second year, the courses pursued are—higher mathematics, general chemistry, mineralogy, with practical exercises, crystallography, the art of mining, civil engineering, drawing, French, practical mining, and geological exercises.

After this year the student determines whether he will devote himself to mining or metallurgy, and receives special instruction accordingly.

The general courses of the third year are—applied mathetics, the art of mining, analytical chemistry, metallurgy, technical chemistry, drawing, practical exercises in mining and metallurgy, geology, with practical exercises, and fossil geology.

The courses of the fourth year are—machinery of mines, theory and practice, mining jurisprudence, examination of minerals, analytical chemistry, and practical exercises of mining and metallurgy. During this year, the pupils who intend devoting themselves specially to mining attend solely to practice in that branch, and thus also with the metallurgists. The particular operation in which they engage is regulated by the lectures, that the practice of each operation may be acquired at the same time with its theory.

In relation to the amount of study to be pursued, the government pupils are divided into three classes, those who aim at entire qualification for the corps, and who, on graduating at the school, go to the university for one year, and those who intend to connect themselves with the department of metallurgy.

Among the apparatus for carrying out these courses is an admirable collection of models of machines and of mines. The collection of minerals and geological specimens is large, and besides that of the school, the students have the use of the cabinet of the celebrated Werner, which is kept detached from the other as a memorial of that great man. The library and reading-room, the collection of physical and chemical apparatus, and

the arrangements for the study of analytical chemistry, and the assay of minerals and ores, are all suitable to their several objects. The course of assaying with the blow-pipe has become quite celebrated.

The lectures are continued from October to July, with holidays of from one to two weeks at Christmas, Easter, and Whitsuntide. During the summer vacations, the regular pupils make excursions into the other mining districts of Saxony, and even into foreign countries, for their improvement in mining, geology, &c., and are expected to keep a journal of their tours. The short vacations are employed at the school in practical exercises and in literary composition, unless leave of absence is obtained. There is also one day of each week on which there are no lessons (Monday), to allow the pupils to take part both in the mining and smelting operations of the district of Freyburg.

There are eight professors and five teachers attached to the school, among whom the different departments are divided according to the following plan, in which the number of lectures per week is also noted:—One professor has charge of the three departments of general and technical chemistry and of metallurgy, lecturing on the first, five hours, on the second, three hours, and on the third, three hours. The professor of theoretical and practical mineralogy lectures on the theory for students of the first and second courses, each three times a week; gives a repetition of one hour, and practical exercises two hours per week. The professor of geology and crystallography lectures on the first, five hours, and on the second, two hours per week. The professor of physics and fossil geology* lectures on the first, four hours, and on the second, two hours per week. The professor of the elementary and higher mathematics gives instruction in the first, four hours, and in the second, two hours per week. The professor of mining jurisprudence and correspondence gives two lessons per week to each of his two classes. Mixed mathematics, mining ma-

* Professor Reich, to whom I am indebted for a copy in MS. of the regulations of the school.

chinery, and general surveying, are under one professor, who teaches the first and second, four hours, and the third, two hours per week. Mining surveying is taught by a surveyor of the corps two hours per week. Drawing and civil architecture by an instructor, the former, six hours, and the latter, three hours per week. Registry is taught by a superintendent of mines. The assay of minerals by an overviewer, five hours per week. The teacher of French gives four hours of instruction per week.

The subjects are in general taught by lectures, combined with interrogation after each lecture, and, when the courses admit, with practical exercises. The pupils are expected to write out a fair copy of their notes, and to keep a journal of their practical exercises; these are from time to time, with the essays which they are directed to write, submitted to the professors, and are presented at the examinations. The subject of each recitation, the character of the pupils' answers, and of the exercises, drawings, and journals, are reported to the directory of mines by the professors. At the close of each of the four years there is an examination of the students in the several branches, and they are classified according to its results, and the estimate of their work during the year. Students who do not pass satisfactorily, remain an additional year in the same class, after which, if they are not found proficient, they are dismissed. These remarks apply of course only to the regular students. There are three prizes for proficiency in the upper classes, and two in the fourth, varying in amount from two up to twenty florins (eighty cents to eight dollars).

*Graduation.* Graduates of the school are candidates for the corps of mines, and receive the pay of this grade until appointed in the corps. Permission may be obtained to go to a university for one year, after graduating, in which case the candidate, on his return to duty, must show satisfactory certificates of study and conduct. This study of one year at a university is essential to certain situations in the corps, and hence is expected from those who intend to have the whole career open before them.

*Discipline.* The discipline of the school is regulated by laws

emanating from the directory of mines, and which are very minute. All the pupils, without distinction, are subject to these regulations. The means of repressive discipline consist of admonitions of various grades, report to the directory, mention in the report to the king, obligatory work in the mines, deprivation of pay, and dismission.

This school, from the character of its officers, government, instruction, and location, offers great inducements to students who wish to become adepts in the principles of mining and metallurgy, and the sciences introductory to them.

### INSTITUTE OF AGRICULTURE AND FORESTRY AT HOHENHEIM, NEAR STUTTGARD.

This is the most complete agricultural school in Europe, and extends its usefulness not only throughout, but beyond, Wurtemberg. It was established in 1817, by the Agricultural Society of Wurtemberg, under the patronage of the king, who devoted a royal seat, with extensive buildings, to the purposes of the institution. The farm includes nearly one thousand acres, exclusively appropriated to the support of the school, or the practical instruction of the pupils. In 1820 the school of forestry was united with this, and the pupils now follow, in part, the same courses.

The entire institution is divided into two departments, one of which is intended to give a higher general and practical education than the other. In the higher, the object is less the acquisition of manual dexterity in the operations of agriculture, than the knowledge required to superintend them; while in the lower, the practice is the principal end. The latter department ranks with the rural schools of Switzerland and the agricultural school of Templemoyle, in Ireland, already described. In the higher school, all the pupils are expected to pay for their education. In the lower, natives of Wurtemberg are admitted gratis, if their circumstances require it. Foreigners may be admitted to either; their payments being, however, on a much higher scale than those of natives.*

* For the yearly courses at the higher school natives pay forty dollars, and fo-

The direction of the establishment is delegated by the Agricultural Society to a director and treasurer, the former of whom has the general superintendence of all the concerns of the institution, while the latter is responsible for its financial state to the society and to the royal exchequer. The director is also an instructor. There are, besides, four regular or ordinary professors, and four extraordinary professors, besides an overseer and steward, for the management of the farm and domestic economy. The treasurer has a book-keeper and an assistant in his department.

Pupils are admitted at seventeen years of age, and are expected to possess elementary attainments necessary to the prosecution of the courses of the school. Between 1820 and 1836, one hundred and eighty natives and one hundred and eighty-two foreigners have been educated in agriculture, and one hundred and forty-seven natives and one hundred and seventy-seven foreigners in forestry, making a total of five hundred and thirty-nine in the institution. The number of pupils in the higher school in 1836 was seventy-two. That in the lower school is limited to twenty-seven.

The pupils of the *lower school*, in general, come under obligations to remain three years at the institution, in consideration of which their payments for instruction are diminished, in part, in the second year, and cease in the third. They are engaged in the operations of the farm, the garden, and other parts of the establishment, which will be hereafter enumerated, under the direction of the workmen, and under the superintendence of the steward, their time being so distributed that they may acquire practice in the various operations of farming. They are also required to attend certain of the lectures given to the higher classes, and receive instruction at times when they are not engaged in agricultural labour. They receive regular wages for work done, from which they are expected to pay for their maintenance and clothing. Premiums are given to those who dis-

reigners one hundred and twenty dollars. For instruction in forestry only, a native pays twenty-four dollars, and a stranger seventy-two dollars. For the three years instruction in the lower school, natives pay forty dollars.

play great skill and industry. While in the house, the younger pupils are under the charge of the elder ones, and all are under the general superintendence of the overseer. The same superintendence exists in the refectory and dormitories. It subserves the double purpose of economy, and of training the elder pupils in the management of men, which is one object of their education. The institution undertakes to find places for those pupils who have given satisfaction while in the school, on their completing its courses.

The agricultural course of the *higher school* may be accomplished in one year, if the preliminary studies of the pupil have been directed with a view to his entering, but in general it requires two years. The same period of two years is required for that of forestry. Each scholastic year has two sessions, the one from the first of November to Palm-Sunday, and the other from two weeks after Palm-Sunday to the first of October. The intermediate periods are vacations.

The branches of special theoretical instruction are as follows:

First: *Agriculture.* General principles of farming and horticulture, including the culture of the vine. The breeding of cattle. Growing of wool. Raising of horses. Rearing of silk-worms. Arrangement and direction of farms. Estimation of the value of farms. Book-keeping.

Second: *Forestry.* Encyclopedia of Forestry. Botany of forests. Culture and superintendence of forests. Guard of forests. Hunting. Taxation. Uses of forests. Technology. Laws and regulations, accounts, and technical correspondence relating to forests.

Third: *Accessary branches.* Veterinary art. Agricultural technology, especially the manufacture of beet sugar, brewing, vinegar making, and distilling. The construction of roads and hydraulic works.

Besides these special branches, the following general courses are pursued:

First: *The Natural Sciences.* Geology. Physiology of plants. Botany, as applied to agriculture and forestry. Natural history of animals beneficial or noxious to plants and trees. General chemistry, and its applications to agricul. ture. Physics and meteorology.

Second: *Mathematics.* Theoretical and practical. Geometry. Elements of trigonometry. Arithmetic. Elements of algebra.

The institution possesses the most ample means for the illustration of these courses in its farm and collections. The farm is divided into arable land, about five hundred and one acres; meadow land, two hundred and forty-two acres; fields set apart for experiments, thirty-three acres; woodland, thirteen acres; nursery, sixty-seven acres; plantation of hops, two acres; botanical garden, fourteen acres; ground for exercising the pupils in ploughing, two acres; garden, one acre; the remainder, eighty-five acres. Total, nine hundred and sixty acres. The arable land is cultivated according to five different rotations of crops, that the pupils may have specimens of the varieties of system. The botanical garden, nursery, and experimental farm, are prominent parts of the establishment. There is a large stock of cattle of different kinds, foreign and domestic, and of sheep, that the pupils may acquire practical knowledge of the relative advantages of different breeds, the mode of taking care of the stock generally, and of rearing them for different purposes. Horses are kept for a riding-school, as well as for the purposes of the farm. The institution has a large collection of agricultural implements in use in Wurtemberg, and of models of the varieties of foreign and new implements. These are made in a work-shop attached to the school, and afford practice in the manufacture to the pupils, as well as instruction by their use or inspection, with the explanations of the professors. The sale of these implements and models also contributes to the support of the establishment. There are two collections of seeds and grain—one as specimens for illustrating the lectures, the other in quantities for sale. The pupils learn the mode of preserving them, and useful seeds are distributed through the country. There is a collection of soils of all kinds for the lectures on terra-culture and the analysis of soils, with specimens of the means of amelioration used in different cases. The collections of natural history, though small, are interesting, from the precise adaptation of the specimens to the objects of the school. They consist of birds, beasts, and insects, and of plants, woods, and rocks. The woods are arranged in the form of a library,

the separate specimens having the forms of books given to them, and being covered in part with the bark. The name is inscribed upon the back. Cross and longitudinal sections are usually found in the same book, forming the covers. Between the covers is a box containing the seeds and flowers of the tree, the parasites, &c., and a description. There is a small collection of physical apparatus, a library, and a laboratory. The following farming and technological establishments are connected with the school, and worked by the pupils, under the charge of the teachers: namely, a cider-press and appurtenances; a beet-sugar manufactory, a brewery, a distillery, and a vinegar manufactory. Though I saw better individual collections than these, the whole suite stands unrivalled, as far as my examination extended.

Examinations take place every year, which are obligatory upon those forestry pupils who intend to enter the service of the government; strangers are not required to be examined. Persons wishing to learn the details of the institution, may be received as visitors for a period not exceeding a month, living with the pupils.

Each pupil in the higher school has his own sleeping-room; or, at most, two room together. They bring their supplies of clothing, &c. at entrance. The rooms are kept in order by the servants, who receive a small compensation from the pupil. They take their dinner and supper in a common hall, and order what they please for breakfast from the steward's assistant.* This institution has supported itself for several years, which is readily to be understood from the scale of its farming operations. The success of the farm does not depend exclusively upon the productive manual labour of the pupils. It is analogous to the support of a family on a large estate, the members of the family aiding in the work, and contributing also in money to their own support, but the working of the farm not depending entirely upon their manual exertions.

* The dinner and supper cost four dollars a month, which is paid in advance to the steward.

## NAVAL SCHOOL OF AUSTRIA, AT VENICE.

This institution is for youths intending to enter the naval service of the empire. They are received at about fourteen years of age, and may pass through the five classes composing the school in as many years. They are then appointed in the navy, as vacancies occur. The school is superintended by a naval officer, whose rank is that of captain of a frigate. The professors and other officers are in general from the same service, though some of the former are citizens.

The general course of instruction is as follows:—Religious instruction, mathematics, Italian, German, French and English languages, geography, history, writing, and drawing. The special courses are—of maritime law, the law of quarantine, epistolary correspondence, the science of artillery, and naval tactics and construction. There are regular exercises in naval manœuvres, rigging, &c., and in infantry tactics, in land and hydrographical surveying, and in fencing. The course of mathematics includes both pure and mixed mathematics; namely, arithmetic and algebra, geometry, plane and spherical trigonometry, the application of algebra to geometry, conic sections, the differential and integral calculus, hydrographic surveying, projections, nautical astronomy, ship-building, mechanics, and physics. The following table shows the distribution of time among the different subjects of study in the five classes, of which the fifth class is the highest:

Distribution of time at the Naval School of Austria, at Venice.

| SUBJECTS OF INSTRUCTION. | HOURS PER WEEK. | | | | | |
|---|---|---|---|---|---|---|
| | Fifth Class. | Fourth Class. | Third Class. | Second Class. | First Class. | Total. |
| Mathematics, | 16½ | 15½ | 16½ | 12½ | 12½ | 73½ |
| Italian, | | | | 2 | 3 | 5 |
| German, | 1 | 2 | 2 | 2 | 1 | 8 |
| French, | | 1 | 1 | 2 | | 4 |
| English, | 2 | 1 | | | | 3 |
| Religious Instruction, | 1 | 1 | 1 | 1 | 1 | 5 |
| Geography, | 1 | 1 | 1 | 1 | 1 | 5 |
| History, | 1 | 1 | 1 | | 1 | 4 |
| Maritime and Quarantine Law, | 1 | 1 | 1 | | | 3 |
| Epistolary Style, | 1 | | | | | 1 |
| Artillery, | 1 | 1 | 1 | | | 3 |
| Naval Tactics, &c., | 1 | | | | | 1 |
| Drawing, | 4 | 5 | 4 | 5 | 5 | 23 |
| Writing, | | 2 | 2 | 3 | 3 | 10 |
| Infantry Drill, | 2 | 2 | 3 | 1 | 1 | 9 |
| Practical Exercises, | | | | 1 | 4 | 5 |
| Hydrographical Surveying, &c., | 1 | 1 | | | | 2 |
| Totals, | 33½ | 34½ | 33½ | 30½ | 32½ | |

The following is the order of the day during the summer for secular days, exclusive of Thursday:—The pupils rise at six, A. M. An hour is allowed for police and mass; half an hour for breakfast. From half past seven to half past eleven they are in

school. There is then an intermission of half an hour. Dinner at twelve, and recreation until one, P. M. Study from one to two, P. M. School from two to five. Recreation from five to six. Prayers from six to half past six. Study from half past six to nine, and recreation from nine to half past nine, and retire. On Thursday they rise at half past six, are engaged in police, mass, and breakfast, until eight. The regulations are read. Study and religious instruction occupy them from nine until half past eleven. Recreation until twelve. Dine, and have recreation until two. Are occupied with religious instruction and study until five. The other arrangements of the day are as above stated. On Sundays and holidays the inspector visits the rooms at eight, A. M. Mass and biblical explanations occupy until nine. There is then a visit of inspection from the director. Study from ten to eleven. Recreation until twelve. Dinner and recreation.

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## CONCLUDING REMARKS.

I have now completed the design of giving such an account of the state of public institutions for education as may enable the Trustees of the Girard College to examine, by the light of experience, the plan which it has been made my duty, at a future time, to present to them for that institution. In so doing, I have endeavoured to confine my remarks and suggestions within the limits which a strict induction from facts would warrant. Having, however, been obliged to make a selection from the materials accumulated during the tour made by the direction of the trustees, I am conscious that all the facts collected are by no means presented. Indeed, a very close selection has been requisite to confine this document within any reasonable limits. Again, I am aware that the character of a report does not permit that entire freedom of expression which, in many cases, is desirable; and hence my impressions of many schools here described have a vividness which the report on them by

no means faithfully represents. To supply these defects, as well as errors of judgment in my selections, I have made an arrangement of all the documents collected in relation to the schools visited, by which any one can be immediately found, or the whole examined. The translations of documents from foreign languages into English have been similarly arranged, the more important ones having been transcribed, to render them easily legible. My private journal relating to these same institutions has, generally, in like manner, been transcribed and classed with the other sources of information. The papers so arranged will be placed in the College library, and will afford the trustees not only the means of appealing to experiment upon doubtful points, but of comparing hereafter our own institution, or others of our country, with kindred establishments abroad. In order to enable the Board to know exactly what are the documents collected which bear particularly upon our objects, I intend to present a list of them* in the Appendix to this Report. This will enable me at the same time to designate the names of those gentlemen to whom I am indebted for the documents, and to thank them for this and other kind offices, by which I was constantly cheered on my way. In the Appendix will be found, also, some useful references, which could not appropriately be embodied in the Report—such as general tables of occupation and diet in different institutions; remarks of some eminent teachers upon the science which they have contributed to advance; lists of books used in certain schools; and other miscellaneous matter connected with the Report.

I proceed to accomplish, as briefly as possible, the remaining part of my duty, namely, to give an account of the manner of executing my instructions in regard to the purchase of books and apparatus. As directed, I confined my purchases of books, with few exceptions, to works on education, or on kindred subjects, to text-books, to such as were in use with advantage as books for the libraries of primary schools, to school-engravings, ordinary

* This list is exclusive of documents relating to the education of the deaf and dumb, of the blind, of juvenile delinquents, and to miscellaneous matters.

maps, and maps in relief. In these departments I purchased works in different languages, that translations might be made of those which it might be deemed expedient to introduce into the school, selecting according to such an examination as I could give at the time, or by the judgment of those in whom I had confidence. I also procured the stock-catalogues of works published in different countries, within a few years, or of older works, and made arrangements to have those of the new works transmitted to the institution. The Board are aware that valuable presents of engravings, maps, and books, were made to the Girard College; among them the splendid work of model engravings for mechanics, presented by the Royal Technical Commission of Prussia, through the president, M. Beuth; the maps of the survey of India, presented by the surveyor-general of India, Major Jervis; the maps and school manuals, presented by the Board of Commissioners of National Education for Ireland; the collection of school books in use in the elementary schools of Holland, presented by Director Prinsen, of Haarlem; and the books relating to the arts, by M. De Moléon, of Paris. I have also placed in the library the various works relating to education and kindred subjects, which I received from their authors, considering that they were presented to me rather as the representative of the Girard College than as an individual; and that they may thus be rendered more useful than if I had retained them with my own books. The works thus brought together form a nucleus for the educational department of our library, and to the accomplishment of such an object my views were very properly limited by the scholastic committee. They are contributions towards a collection which will be necessary to aid the studies of our pupils and teachers, and which is referred to in his Will by our founder.

In regard to apparatus and models, my purchases have consisted, first, of such as must be required in the lower departments of the College, and which were new, or could not be so readily procured at home. Second, of some articles of the best apparatus, for illustrations in mechanics and physics, from different makers, to serve as specimens of the quality of their work, and

of the grade of apparatus which seemed to me suitable for the collections of the College. In connexion with these, I have an extensive series of printed and written catalogues of apparatus, with their prices, from different parts of Europe. The specimens themselves will, I trust, incidentally, by being open to the inspection of our instrument-makers, promote the advancement of this branch of art. Third, specimens of a collection of models of machines, and of a technological collection, complete cabinets of which will be essential in the higher departments of the institution.* In the case of those procured at Paris, the Board are already aware that I had the advantage of the kind offices of M. Arago, as inspector, and their acknowledgments have been made to him for the service rendered. Fourth, such instruments, of the more delicate kind, as are difficult to procure without personal relations with their inventors, and those who make them. All these classes of articles but the first are expensive, and hence my purchases have been necessarily limited in extent by the funds placed at my disposal. They are, however, merely intended as specimens, and as such, will, I trust, be found to answer their purpose. The difficulty of getting together a complete collection of books and apparatus cannot be too plainly insisted upon. The delays incident to it are great, and, though they may be lessened, cannot be avoided.

The Board of Trustees will readily see, from the tenor of this Report, that my examination has not enabled me to select any single institution which fulfils at once the requisites of the Will of our founder, and of the present state of education, and which might, therefore, serve as a model for the Girard College for Orphans. The plan to be presented to them, as far as it is derived from these materials, must be made up of fragments, to be so modified as to adapt them to the peculiarities of the College, and to our political and social character and institutions. According

* A quotation from the Will of Mr. Girard will serve to show that these ideas conform to its express directions. Among the subjects of instruction for carrying out which, he directs "books, philosophical and experimental instruments and apparatus" to be provided are,—"geography, navigation, surveying, practical mathematics, astronomy, natural, chemical, and experimental philosophy."

to the Will of Mr. Girard, orphan boys are to be educated in his College from the age of six years to fourteen, sixteen, and even eighteen years of age. The materials of their instruction must be "things rather than words," and the degree is to be such "as the capacities of the several scholars may merit or warrant." The first provision, from the early age of admission which it enjoins, enables us to train as well as to instruct; the second indicates that the tendency of our training should be towards practical life. The age of our pupils embraces the period from elementary to superior instruction, and we are expressly called upon to develope talent. Our College must, therefore, combine the primary, secondary, and special schools The means furnished by our munificent benefactor to execute his intentions are vast, and if the benefits thence accruing are not in proportion, the responsibility must rest with those to whom they have been entrusted. The trustees of the College have appealed to the experience of Europe to furnish data necessarily wanting in a new country, and it remains for them to apply the experimental deductions thus obtained from the old world with the vigour characteristic of the new. If their spirit be proportionate to the work to be accomplished, there can be little doubt of the result. Our founder has furnished them the means of establishing a series of model schools for moral, intellectual, and physical education, embracing the period of life from early youth almost to manhood, the importance of which to our city, and even to the country at large, can hardly be estimated.

Respectfully submitted, by

A. D. BACHE,
*President of the Girard College for Orphans.*

Philadelphia, May 1, 1839.

# APPENDIX.

# APPENDIX.

The following Appendix contains the titles of the documents relating to education in general, collected during a tour of two years through some of the principal countries of Europe, besides miscellaneous matter, which could not be appropriately embodied in the foregoing Report, but which, nevertheless, is of interest, as illustrating particular parts of it. The articles of the Appendix have been referred to by their numbers in the course of the Report, and they will now be preceded by a statement of the pages of the Report, where the references are to be found.

## No. I.

*Referred to on pages* 9, 14, *and* 603.

The titles of the different documents relating to general education will be found in the following pages, classed in the order of the countries where they were procured. Not to make this list too long, I have been obliged to confine it to documents relating to instruction in general, omitting those from the schools of the deaf and dumb, and the blind, and from houses of refuge for juvenile delinquents. Works on education, or on particular departments of it, or methods, are, also, in general, not included in it. The documents are arranged in the following order:—first, those of Great Britain, subdivided into England, Ireland, and Scotland; next, those of France, then of Switzerland, of Belgium, Holland, Germany, and Italy. The German and Italian states and Swiss cantons are classed alphabetically, and the same is the case with the different places in the various countries, the documents relating to which are sufficiently numerous to require any formal classification. In the several divisions the articles are arranged according to the plan adopted in the Report, namely, the eleemosynary institutions first, then the infant, primary, secondary, and superior schools; institutions for adult instruction are placed last. When the documents refer to education in a country at large, they are usually placed first on the list.

The chief part of these papers were presented to me by the gentlemen whose names are attached to them, and I beg leave here to return to them, as well as to others who were so kind as to further the objects of my journey, my most sincere thanks.

## ENGLAND.

1. Abstracts of the answers and returns made pursuant to an address of the House of Commons, May 24th, 1833. Vol. I., Bedford, Lancaster; Vol. II., Leicester, Suffolk; Vol. III., Surrey, Radnor. 1835.

2. Report from the Select Committee on the State of Education, with the Minutes of Evidence and Index. August 7th, 1834.

3. Report from the Select Committee on Education in England and Wales, together with the Minutes of Evidence, Appendix, and Index. August 3d, 1835.

4. Report from the Select Committee on Education of the Poorer Classes in England and Wales, together with the Minutes of Evidence and Index. 13 July, 1838.

5. A bill intituled, "An Act for Promoting Education and Regulating Charities, presented by Lord Brougham and Vaux, 2d February, 1837." (From W. Holl, Esq.)

6. Prospectus of the Central Society of Education in London.

### BIRMINGHAM.

1. A short account of the Blue-coat Charity School in Birmingham, from its institution in 1724, to 1830, and list of subscribers, &c. (From the head Master.)

2. Memorandum of the diet of the children of the Blue-coat School in Birmingham, MS. (From the same.)

3. List of Text-books used in the Grammar School of King Edward VI. (From the Rev. Dr. Jeune.)

4. Proposed changes in the system of the school of King Edward VI., 1837.

5. Prospectus of the Birmingham and Edgbaston Proprietary Day School, 1837. (From Mr. J. C. Barlow.)

6. Rules and Regulations of the Birmingham and Edgbaston Proprietary Day School, established in 1837. (From the same.)

7. Report and Resolutions passed at the first annual general meeting of the Proprietors of the Birmingham and Edgbaston Proprietary School, in 1838. (From the same.)

8. List of the Secretaries of Proprietary Schools in England, MS. (From the same.)

### BRISTOL.

1. Duties of the boys of Colston's Hospital, in Bristol, 1838. (From the Master.)

2. Prospectus of Bristol College, 1838.

### CAMBRIDGE.

1. Collections of Examination Papers, &c. (From Professor Peacock, Professor Miller, Mr. Thurtell, Mr. Stokes, and Mr. Mayer.)

2. List of the principal Text-books used in the colleges at Cambridge, MS.

### CHESTER.

1. Rules to be observed by parents whose sons are admitted day-scholars or green-caps, in the Blue-coat Hospital, in Chester. (From the Master.)

2. The Annual Report of the Blue-coat Hospital, in Chester, for 1836. (From the same.)

DURHAM.

Education of Students in Civil Engineering and Mining in the University of Durham, 1838. (From Professor J. F. W. Johnson.)

LEEDS.

Prospectus of Leeds Infant School Society, 1836.

LIVERPOOL.

1. The Annual Report of the Blue-coat Hospital, in Liverpool, for 1835, MS. Replies to Queries, MS. Rules of Entrance. Form of Indenture. Plan of Instruction. Forms for Teachers' Reports. Weekly Consumption of Provisions, &c. (From Mr. Samuel Dickens, assistant master, and James Aspinall, Esq., honorary treasurer.)

2. A full report of the Speeches and Proceedings at a meeting for the Promotion of Scriptural Education in Liverpool, held July 13, 1836.

3. Plan of Instruction at Mr. Charles Voelcker's school at St. Domingo-House, Everton, near Liverpool, 1837, MS.

LONDON.

1. A Description of the London Orphan Asylum for the reception and education of Destitute Orphans, particularly those descended from respectable parents, instituted July 27, 1813, 1836. (From the Rev. Mr. Reed.)

2. By-laws of the London Orphan Asylum. (From the same.)

3. Plan of Education of the London Orphan Asylum in Clapton. (From the same.)

4. Report of the London Orphan Asylum, read at the general annual meeting, January 23, 1837. (From the same.)

5. Gross expense and average number of Children of the London Orphan Asylum, from 1831 to 1836. (From the same.)

6. Election List for 23d January, 1837, of the London Orphan Asylum. (From the same.)

7. Description of sundry works, intended to be done for the Managers of the London Orphan Asylum, in building, and completely finishing the London Orphan Asylum at Clapton. (From the same.)

8. History of Christ's Hospital. By the Rev. W. Trollope.

9. The Second Annual Report of the Home and Colonial Infant School Society, instituted 1836, with an account of the proceedings at the opening of the Society's house, &c. (From J. S. Reynolds, Esq., Secretary.)

10. Institution for the Effective Education of Youth, and also a plan of Infant Education for Children of the Higher and Middle Classes in the neighbourhood of Fulham, Middlesex, 1836.

11. A Compendious Report of Proceedings and Operations in the Central School of the British and Foreign School Society in London, 1836 and 1837. (From the Secretary, Mr. Dunn.)

12. Report of the National Society for Promoting the Education of the Poor on the Principles of the Established Church, &c. 1837. (Westminster Model School.) (From the Secretary.)

13. A Concise Description of the Endowed Grammar Schools of England and Wales. London, 1818. By Nicholas Carlisle.

14. History of the Merchant Tailors' School. By the Rev. H. B. Wilson.

15. Exercises at the Public Exhibition of St. Paul's School, May, 1837. (From Petty Vaughan, Esq.)

16. Charter-house Examination of the Upper School, 1837. Approved books to be used in the Boys' School. (From the Rev. Wm. Chapman.)

17. Prospectus of the University of London, (London University College,) and the University College School, 1837.

18. Address to the Proprietors of the University of London, by J. M. Morgan, Esq., 1833. (From the author.)

19. Sketch of the System of Education in practice at the Schools of Bruce-Castle, Tottenham, and Hazlewood, near Birmingham, 1833. (From Mr. Arthur Hill.)

20. Blank Forms relating to Instruction and Discipline at Dr. Biber's School, Coombe Wood, near London. (From Dr. Biber.)

21. Regulations of the New University of London on the Subject of Examinations for Degrees in Arts. (From Dr. Jerrold.)

22. Prospectus of the Gresham Lectures. London, 1837. (From Petty Vaughan, Esq.)

MANCHESTER.

1. Some account of the Blue-coat Hospital and Public Library in Manchester, founded by Humphrey Cheetham, Esq., in the year 1651. (From Mr. Crossley, Governor.)

2. Rules of the Blue-coat Hospital in Oldham, near Manchester. Petition for admission, &c. (From Mr. Barrett, Master.)

3. Report of a Committee of the Manchester Statistical Society, on the State of Education in the borough of Manchester, in 1834. (From W. Langton, Esq.)

4. Report of a Committee of the Manchester Statistical Society, on the State of Education in the Borough of Bury, Lancashire, in 1835. (From the same.)

5. Report of a Committee of the Manchester Statistical Society, on the State of Education in the Borough of Salford, in 1835. (From the same.)

6. Report of a Committee of the Manchester Statistical Society, on the State of Education in the Borough of Liverpool, 1835–36.

7. Forms of Queries and Replies, by the Manchester Statistical Society, in their Inquiries into the State of Education. (From W. Langton, Esq.)

8. Tenth Report of the Chorlton upon Medlock Central Infants' School Society, 1836. (From Mr. Bailly, Teacher.)

9. Report of the Committee of the Royal Lancastrian Free School, from 1831 to 1835. Specimen of writing by a pupil. (From Mr. Perkins, Teacher.)

10. Report of the Committee of the Manchester and Salford New Jerusalem Church Free Day Schools, established in 1827, for the years 1835 and 1836. (From Mr. Moss, Teacher.)

11. Fourteenth Annual Report of the London New Jerusalem Church Free School Society, together with the Proceedings at the Annual General Meeting, held at Kennington, 1836. (From the same.)

12. A Description of the System of Inquiry and Examination by the Scholars themselves, by means of Circulating Classes; submitted as an Improvement on the Madras System of Education, by T. Stoat, of the Islington Parochial School. (From the same.)

13. A Report of the State of the Sunday Schools in Manchester and Salford, belonging to the Established Church, for the year 1834.

14. Rules Adopted for the Government of Bennett Street Sunday School. Manchester, 1832. (From Mr. Lawton.)

15. The Annual Report of the Stockport Sunday School, 1836. (From Mr. S. E. Cottam.)

16. Prospectus of the Courses of Education to be pursued in the Dover Street School.

17. Plan of a University for the Town of Manchester, by H. L. Jones, M. A. (From W. Langton, Esq.)

18. Syllabuses of Courses of Lectures on Mechanical Philosophy, Astronomy, Optics, Acoustics, Electricity, &c., the Steam-engine, Chemistry, Zoology, Botany, Vegetable Physiology, Geology, &c., the Modern Languages, &c., delivered at the Manchester Mechanics' Institute, 1836–37. (From Mr. S. E. Cottam.)

NEWCASTLE.

1. The Twenty-sixth Report of the Jubilee School, and of the Improved School for Girls, in New Castle-upon-Tyne, 1836. (From Sheriff Nichol.)

2. An Outline of the System of Education pursued in Mr. Bruce's Academy, in New Castle. (From Mr. Bruce.)

WORKSOP.

Prospectus of Mr. Heldenmaier's School, on the principles of Pestalozzi, at Worksop, Nottingham.

YORK.

1. Rules of the Blue-coat Boys' and Grey-coat Girls' Charity Schools, in York, 1829. (From the head Master.)

2. Report of the Blue-coat Boys' and Grey-coat Girls' Charity School in York, established 1708, for the year 1836. (From the same.)

## IRELAND.

1. Reports from the Select Committees on Foundation Schools and Education in Ireland, together with the Minutes of Evidence appended, and Index, 1835 to 1838.

2. Report from the Select Committee of the House of Lords, on the New Plan of Education in Ireland, &c. Parts I. and II. 1837.

BELFAST.

1. Report of the Committee appointed to prepare a Plan of Education and Government for the intended Academical Institution in Belfast, 1807. (From Professor Stevelly.)

2. A View of the System of Education in the Collegiate Department of the Royal Belfast Academical Institution, 1832. (From the same.)

3. The Act of Incorporation and Bye-laws of the Belfast Academical Institution, 1810. (From Professor Stevelly.)

4. Prospectus of the Belfast Academical Institution. (From the Rev. Dr. Montgomery.)

5. Statement of the Constitution of the Belfast Academy, with an account of the History and Present State of the System of Education pursued in that Seminary. Founded 1785. (From the Rev. Dr. Bryce.)

6. Prospectus and List of Books used in the Classical Course of the Academical Institution. Questions proposed in the Mathematical Class, &c. Catalogue of the Books in the Library of the Belfast Academy. (From the same.)

7. Sketch of a Plan for a System of National Education for Ireland, by Dr. R. J. Bryce. 1828.

8. Outline of a Course of Lectures on the Science of Education, delivered in the London University, by the Rev. R. J. Bryce, LL. D. 1836.

DUBLIN.

1. Regulations for the Establishment and Government of the Royal Hibernian Military School for the Orphans and Children of Soldiers. Revised in 1829. (From Major Rowand, Commandant.)

2. Notes on the Hibernian Society for the Care of Soldiers' Children, (MS.)

3. Abstract of Officers at the Hibernian School, (MS.)

4. Printed forms relating to the School, viz:—Form of Petition for Admission, comprising also a Register of Life at School. Certificate of School Distinction. Return of work done. Morning Report. Weekly Report and Register. Report of Sundries, &c., of School. Form of Bill of Expenses. Certificate before binding the boys to service. Form of Indenture made with the Governors of the Hibernian Soldiers' Society, 1836. (From Major Rowand.)

5. Reports of the Committee to the Annual Meetings of the Society for Promoting the Education of the Poor of Ireland, for the years 1828, 1832, 1833, 1834, 1835, and 1836.

6. Reports of the Commissioners of National Education in Ireland, for the years 1834, 1835, and 1836. (From the Rev. Mr. Carlile.)

7. Memorial respecting the Charity Schools connected with the Scots Church. (From the same.)

LONDONDERRY.

1. A copy of the last Will and Testament of the late Mr. John Gwyn, of Londonderry. (From the Master of Gwyn's Charity.)

2. Committee Lists, &c. (From the same.)

3. Regulations for promoting Agricultural Instruction and Agricultural Employment, and for improving the condition of the People of Lough Ash, by J. P. Kennedy. 1835. (From Captain Kennedy.)

4. Report of the Agricultural Seminary at Templemoyle, County of Londonderry. Established, 1827. (From Sir R. Ferguson.)

5. Sketch of Templemoyle Farm.

# SCOTLAND.

1. Education Inquiry. Abstract of the Answers and Returns made pursuant to an Address of the House of Commons, in 1834. Scotland, 1837.

2. Report from the Select Committee on the state of Education in Scotland, together with the proceedings of the Committee, and Appendix. 1838.

3. Report of the Commissioners appointed for inquiring into the state of the Universities and Colleges of Scotland. 1832.

## ABERDEEN.

1. Report of the Public Schools of the City of Aberdeen, 1834. (From A. Dingwall, Esq.)

2. Examination of a Pamphlet entitled, "Plan of Education in the Marischal College and University of Aberdeen, with the reasons of it, drawn up by order of the faculty, 1765. 1826. (From the same.)

## EDINBURGH.

1. A Historical Account of the Orphan Hospital of Edinburgh, 1833. (From J. G. Wood, Esq.)

2. Regulations for the Orphan Hospital, 1834. (From the same.)

3. Letter from J. G. Wood, Esq., in relation to the signification of the word Orphan, &c.

4. Form of Recommendation for Admission to the Orphan Hospital.

5. Last Will and Testament, and Codicil thereto, of George Heriot, and the Original Statutes of his Hospital, by Dr. Balcanqual, 1833. (From the Rev. Hector Holme, House-governor).

6. An Act to explain and extend the Powers of the Governors of George Heriot's Hospital, 1836. (From Mr. Bayly, Secretary.)

7. Regulations for the internal management of George Heriot's Hospital, 1833. (From the same.)

8. Regulations enacted by the Governors of George Heriot's Hospital, upon the 13th October, 1834, as to the superintendence to be exercised over the boys at their leaving the institution and afterwards. (From the same.)

9. Number of boys admitted into George Heriot's Hospital, from October, 1830, to October, 1836, both inclusive. (From the same.)

10. Tabular View of the Hours of Employment and Exercise in George Heriot's Hospital. (From the Rev. Mr. Holme.)

11. Committees of Trustees of Heriot's Hospital, January, 1837. (From the same.)

12. Tenders for the furnishing of provisions to George Heriot's Hospital. Form of Advertisement for Supplies. (From the same.)

13. The Statutes and Rules of George Watson's Hospital, 1740. (From the Rev. Mr. Munro, House-governor.)

14. Regulations for George Watson's Hospital, 1831. (From the same.)

15. Copy of a Petition for Admission into George Watson's Hospital. (From the same.)

16. List of Applicants for Admission into George Watson's Hospital, March, 1836. (From the same.)

17. Course of Study and Text-books used at George Watson's Hospital, January, 1837, (MS.) (From the same.) Notes and Replies to Queries in reference to George Watson's Hospital, (MS.) (From the same.)

18. Papers relating to John Watson's Institution for Destitute Children. 1. Deed of Settlement. 2. Deed of Destination of the Funds. 3. Act of Parliament. 4. Regulations for Management. 5. Regulations for Master and Matron, 1830. (From the Rev. Mr. Marshall.)

19. Distribution of time in John Watson's Hospital, February, 1837. (MS.) (From the same.)

20. A Course of Education for the Children of John Watson's Institution, proposed to the Directors by Mr. Charles Marshall. (MS.) (From the same.)

21. Expenses of John Watson's Hospital, 1836.

22. Abstract of the Treasurer's Accounts with John Watson's Institution, August 1st, 1836.

23. List of occupations of the parents, the pupils, and a statement whether the parents are dead or alive. (From the Rev. Mr. Marshall.)

24. Regulations for the Management of Cauvin's Hospital, 1835. (From the Provost of Edinburgh.)

25. Statutes of the Maiden Hospital, founded by the Company of Merchants of Edinburgh and Mary Erskine, and Rules for the Government and Order of the Hospital, 1819. (From Mr. Jamison.)

26. Regulations for the Merchant Maiden Hospital, 1731. (From the same.)

27. Remarks upon a System of Education for the Girard College, by James Simpson, Esq. (MS.)

28. Third Report of the Edinburgh Infant School Society, 1838. (From Mr. Milne.)

29. Hints for Lessons on Moral Training, Grammatical Exercises, &c., for Infant Schools, (MS.) (From the same.)

30. Report of the General Assembly's Education Committee, for the years 1833–34–35. (From John Gordon, Esq.)

31. Eleventh Report of the Directors of the Circus-Place School, 1837. (From the Rev. Dr. Reid.)

32. Annual Report by the Directors of the Edinburgh Academy, for the years 1835–36. (From Rector Williams.)

33. List of Text-books used in the High School of Edinburgh, (MS.)

34. Course of Studies of the Hill Street Association for Languages, Mathematics, &c. (From Mr. Cunningham.)

35. Report on Mr. Cunningham's Institution for Languages, Mathematics, &c. 1835. (From the same.)

36. Prospectus of the Edinburgh Southern Academy. (From Mr. Gunn.)

37. Prospectus of the Scottish Institution for the Education of Young Ladies. (From Dr. D. B. Reid.)

38. Course of Studies, Distribution of Time, and List of Text-books, used in the Scottish Institution for the Education of Young Ladies. (From the same.)

39. Report of the Scottish Institution for the Education of Young Ladies, 1838. (From the same.)

40. General Observations on the Principles of Education, for the use of Mechanics' Institutions, by Sir G. S. Mackenzie, 1836.

41. Reports of the Directors of the School of Arts, from 1824 to 1836. (From Dr. D. B. Reid.)

## GLASGOW.

1. Abstract of the Rules and Regulations by which Hutcheson's Hospital is governed, 1830. (From Mr. Hill.)

2. State of the Cases of Applicants for admission into Hutcheson's, Baxter's, and Blair's Schools, 1830. (From Mr. M'Arly.)

3. State of the Cases of Applicants for admission into Miller's Charity School, 1836. (From the same.)

4. Form of Indenture of pupils bound out by the Trustees of Hutcheson's Hospital. (From the same.)

5. Plan of Parochial Training Schools, Infant and Juvenile, November, 1836. (From Mr. D. Stow.)

6. Letters from Parents of Infant Schools. (From the same.)

7. Sketch of the Building of the Highlanders' Schools, Greenock.

8. An outline of the Studies pursued in the High School of Glasgow, with a few Introductory Remarks, 1835. (From Mr. D'Orsey.)

9. Proceedings at the Annual Distribution of Prizes to the pupils attending the High School, 1836. (From the same.)

10. Glasgow University Calendar. 1834.

11. Regulations respecting the Examination for Degrees in Arts, in Medicine, and Surgery. (From the Provost of the University.)

12. Subjects prescribed for Prize Essays at the University, 1836. (From the same.)

13. List of Text-books used in the University of Glasgow. (MS.)

14. Outline of the Plan of Instruction in the Class of Practical Astronomy, in the University of Glasgow. (From Professor Nichol.)

15. Reform of the University of Glasgow, considered with reference to the published Report of the Royal Commissioners of Visitation, appointed by Sir Robert Peel, 1833.

16. Observations by the Principal and Professors of Glasgow College, on the Schemes of Reform proposed for the University of Glasgow. 1837.

17. Letter of Dr. John Lee, in reply to the foregoing.

18. Outlines of the Lectures on Chemistry for the Mechanical Class of the Andersonian University. 1836–37. (From Professor Graham.)

19. Syllabuses of Lectures at the Glasgow Mechanics' Institution, on Mechanics, Natural Philosophy, Chemistry, Natural History and Physiology, History, Geography, &c. 1837. (From Mr. Hugo Reid.)

20. Annual Reports of the Glasgow Mechanics' Institution, for the years 1826, 1833–34–35–36. (From Mr. Leadbetter.)

21. Prizes offered in the Glasgow Mechanics' Institution, session 1836–37.

22. Prospectus of Anderston Popular Institution for the Diffusion of Useful Knowledge.

### ST. ANDREWS.

List of Text-books used in the English Department of the Madras College.

## FRANCE.

### GENERAL.

1. Code Universitaire ou Lois, statuts et règlemens de l'université royale de France, 1835. Code of the University, or Laws, Statutes, and Regulations of the Royal University of France, 1835.

2. Almanach de l'Université Royale de France, 1836. Almanack of the Royal University of France, 1836.

3. Bulletin Universitaire. Official Bulletin of the Council of Public Instruction.

4. Système de l'Université de France, ou plan d'une éducation nationale, par M. Rendu, 1816. System of the University of France, or plan of a National Education, by M. Rendu, 1816.

### PRIMARY INSTRUCTION.

5. Rapport au roi par le ministre de l'instruction publique sur l'exécution de la loi du 28 Juin, 1833, relative à l'instruction primaire. 1834. Report made to the King by the Minister of Public Instruction on the execution of the Law of the 28th of June, 1833, in reference to primary instruction. 1834.

6. Rapport au roi sur la situation de l'instruction primaire par le ministre de l'instruction publique en 1837. Report to the King on the state of Primary Instruction, made by the Minister of Public Instruction, in 1837.

7. Annuaire de l'Instruction primaire, pour 1832–33–34. Annual of Primary Instruction for 1832–33–34.

8. Annuaire de l'Instituteur Primaire, pour 1838. Annual for Primary Teachers, in 1838.

9. Bulletin de la Société pour l'Instruction Élémentaire, 1837. Bulletin of the Society of Elementary Instruction.

10. Compte rendu des Travaux de la Société d'Encouragement pour l'Instruction Élémentaire, 1837. Report of the Society for the Promotion of Elementary Instruction, 1837.

11. Journal Général de l'Instruction Publique, 1838. General Journal of Public Instruction.

12. Manuel Général de l'Instruction Primaire: Journal Officiel. General Manual of Primary Instruction, an Official Journal, 1838.

13. Manuel de l'Enseignement Simultané. Manual of Simultaneous Instruction, 1837.

14. Manuel de l'Enseignement Mutuel, 1837. Manual of Mutual Instruction, 1837.

15. Programme de la Société pour la Propagation de la Méthode Mnémonique Polonaise, 1837. Programme of the Society for the Propagation of the Polish Mnemonic Method, 1837.

16. Guide de la Méthode Wilhem, 1838. Guide for the Method of Wilhem, 1838.

17. Specimen of Writing from a Primary School at Paris.

18. Sur l'Instruction Primaire en France. On Primary Instruction in France.

19. Manuel des Aspirants aux brevets de capacité pour l'enseignement élémentaire. Manual of Candidates for the diploma of Elementary Teacher, 1837.

20. Programme des Questions pour l'examen des aspirants pour l'enseignement primaire, 1837. Programme of Questions for the Examination of Teachers for Primary Instruction, 1837.

21. De la Congrégation des Frères de la Doctrine Chrétienne. Account of the Rules, &c., of the Christian Brotherhood (for giving gratuitous instruction.)

22. Programme des études et divers exercices aux quels doivent se livrer les élèves de l'ecole normale à Dijon. 1837. Course of Study and Distribution of Time for the pupils of the Normal School at Dijon, 1837. (From the Director.)

23. De la Construction des maisons d'école primaire, par Bouillon, 1834. On the Construction of School-houses for Primary Instruction, by Bouillon, 1834.

24. Le Visiteur des écoles par un Inspecteur d'Académie, 1830. The Visitor of Schools, by an Inspector of the Academy, 1830.

25. Exposé des Motifs et Projet de loi sur l'Instruction secondaire présentés, par M. Guizot, à la Chambre des Députés, 1836. Motives for the Proposed Law on Secondary Instruction. Presented by Mr. Guizot to the Chamber of Deputies. 1836.

26. Rapport fait au nom de la Commission chargée d'examiner le Projet de loi sur l'Instruction Secondaire, par M. St. Marc Girardin. Report from the Select Committee on the Project of Law on Secondary Instruction, made by Mr. St. Marc Girardin, in the name of the Committee.

27. Mémoire Presenté par la Société des Méthodes d'Enseignement. Memorial presented by the Society for Methods of Teaching.

28. Arrêté du Conseil Royal de l'Instruction Publique, 1837; réglant les matières sur lesquelles seront interrogés les aspirants aux grades de bachelier ès-Sciences, &c. Decree of the Council of Public Instruction, in 1837; fixing the subjects for examination for the degrees of bachelor of mathematical and physical sciences.

29. Cours et conférences suivis dans l'École Normale à Paris, en 1836. (MS.) Course of Study at the Normal School of Paris, 1836. (From M. Viguier.)

30. Réglements, rapports et programme de l'École Normale à Paris. Regulations, Reports, and Programme of the Normal School at Paris.

31. Manuel des Aspirants au Baccalauréat ès-Lettres, 1836. Manual of Candidates for the degree of Bachelor of Letters.

32. Manuel des Aspirants au Baccalauréat ès-Sciences, 1837. Manual of Candidates for the degree of Bachelor of Sciences.

33. Programmes de l'enseignement de l'École Royale Polytechnique pour l'année, 1836–37. Course of Study of the Royal Polytechnic School, for the year 1836–37. (From Mr. Dulong.)

34. Annuaire de l'École Royale Polytechnique, pour 1836 et 1837. Annual of the Royal Polytechnic School, for the years 1836–37.

35. École centrale des Arts et Manufactures, Paris, 1837. Description of the Central School for Arts and Manufactures. (From Mr. Lavallée, director.)

36. Programme de l'École de Commerce et des Arts industriels à Charonne, banlieue de Paris. Prospectus of the school for Commerce and Industry at Charonne, near Paris. (From Mr. Pinel Grandchamp, director.)

## SWITZERLAND.

### BERNE.

1. Erkenntniss der Waisenhaus-direction ansehend eine anderwärtige Einrichtung des bürgerlichen Knaben und Mädchen Waisenhauses der Stadt Bern, 1799. Resolution of the Managers of the Orphan-house in reference to a new Organization of it, 1799. (From the Director.)

2. Gesetz über den Privat Unterricht, 1835. Law on Private Instruction, 1835. (From Mr. Schneider, Vice President of the Council of Public Instruction.)

3. Instruction für die Schul commissarien, 1833. Instruction for School Committees, 1833. (From the same.)

4. Loi sur les écoles primaires publiques. 13 Mars, 1835. Law on Primary Public Schools, March 13, 1835. (From the same.)

5. Beschluss des grossen Rathes in Beziehung auf das Einkommen der Lehrers, 1837. Resolutions of the Great Council in reference to the Salary of Teachers. (From the same.)

6. Bericht über die Versammlung des Vereins für Christlicher Volksbildung, 1833, &c. Report of the Meeting of the Society for Christian Education, 1833. (From the same.)

7. Berichten über die Erziehungs-Anstalt für arme Kinder auf Bättwyl bei Burgdorf, 1836–37. Report on the Establishment for the Education of Poor Children at Bättwyl, near Burgdorf, 1836–37. Instituted by the Society for Christian Education. (From the same.)

8. Reglement für die Normalanstalt zu Münchenbuchsee bei Bern, 1833. Regulations for the Normal School at Münchenbuchsee, near Berne, 1833. (From the same.)

9. Summarischer Bericht über die Normalanstalt in Münchenbuchsee, 1837. (From the same.)

10. Stundenplan der Normalanstalt und der damit verbundenen Model Schule in Münchenbuchsee, 1837. Plan of Instruction of the Normal School, and the Model School connected with it, at Münchenbuchsee, 1837. (From the same.)

11. Neunzehnter Bericht der Hauptversammlung der allgemeinen Schulmeis-

tercasse des Cantons Bern, 1837. Nineteenth Report of the State of the Teachers' Fund of the Canton of Berne, 1837. (From the same.)

12. Bericht über die Leistungen und den Unterricht im Progymnasium und der damit verbundenen Industrie und Elementarschule, 1836. Report on the Progress and Instruction in the Progymnasium, and in the Elementary and Industrial Schools connected therewith, 1836. (From Director Rüetschi.)

13. État provisoire des leçons de l'école d'industrie, 1837. Provisional Arrangement of Studies at the Industrial School, 1837. (From Professor Gerber.)

14. Bericht über die Leistungen der Real Schule während den Jahren 1833–35. Report on the Progress of the Real School during the years 1833–35. (From Counsellor Schneider.)

15. Bericht über die Veränderungen in der Litterarschule, 1833. Report on the Changes of the Grammar School, 1833. (From Mr. Rüetschi.)

16. Bericht über die Leistungen und den Unterricht in der Litterarschule, in 1833–34, und 1834–35. Report on the Progress and the Instruction in the Grammar School, in 1833–34, and 1834–35. (From the same.)

17. Annalen des Höheren Gymnasiums, 1836 and 1837. Annals of the Higher Gymnasium, 1836 and 1837. (From the same.)

18. Ausführliche Darstellung des Unterrichts Planes für das Höhere Gymnasium, 1835. Full description of the Plan of Instruction in the Higher Gymnasium, 1835. (From Counsellor Schneider.)

19. Loi sur l'établissement d'un Gymnase et d'une Université à Berne, 1837. Law for the Establishment of a Gymnasium and a University at Berne, 1837. (From the same.)

20. Reglemente für die Hochschule, 1835. Regulations for the University, 1835. (From the same.)

21. Verzeichniss der Vorlesungen welche an der Hochschule gehalten worden sind während den jahren 1834 bis 1837. List of Lectures which have been delivered in the University during the years 1834 to 1837. (From the same.)

22. Verzeichness der Behörden, Professoren und Schullehrer, Studierenden und Schüler der Bernischen Akademie und Schulen, von 1834 bis 1837. List of the Authorities, Professors, Teachers, Students, and Pupils in the University and Schools of Berne, from 1834 to 1837. (From the same.)

23. Dekret über den Besuch Französischer Universitäten, 1834. Decree in relation to Attendance at French Universities, 1834. (From the same.)

### HOFWYL.

1. Lettre sur la Fête célébrée à Hofwyl, le 23 Mai, 1807, par M. Gauteron. Letter on the Festival which was held at Hofwyl, the 23d of May, 1807. By Mr. Gauteron.

2. Coup d'œil sur l'influence à espérer des établissemens d'Hofwyl quant au perfectionnement de l'industrie et des moeurs, par M. Gauteron. On the Influence which may be expected from the Establishments at Hofwyl, in reference to the promotion of Industry and Morals, by Mr. Gauteron. (From Mr. Fellenberg.)

3. Lettre sur les établissemens de Mr. Fellenberg, et spécialement sur l'ecole

des pauvres à Hofwyl, 1812, par M. Charles Pictet. Letter on the establishments of Mr. Fellenberg, and especially on the Poor School at Hofwyl, 1812. By Charles Pictet.

4. Rapport sur l'institut d'éducation des pauvres à Hofwyl, rédigé par M. A. Rengger. Report on the Institution for the Education of the Poor at Hofwyl, by Mr. A. Rengger, 1815.

5. Notice sur les établissemens de Hofwyl, par M. V. E. B. Crud, 1816. Notes on the Establishments at Hofwyl, by Mr. V. E. B. Crud, 1816.

6. Darstellung des religiösen Bildungsganges der wissenschaftlichen Erziehungsanstalten in Hofwyl, von Emanuel von Fellenberg, 1822. Exposition of the Religious Instruction given in the Boarding-schools at Hofwyl, by Emanuel von Fellenberg, 1822. (From Mr. Fellenberg.)

7. Lettre sur la colonie d'enfants indigents, établie à Meykirch prés de Hofwyl, 1830, par M. de Fellenberg. Letter on the Colony for Poor Children, established in Maykirch, near Hofwyl, by Mr. Von Fellenberg, 1839. (From the same.)

8. Extracts of a Letter from Em. Fellenberg to Lady Ncel Byron, stating the objects of his Institutions at Hofwyl, near Berne. (Translated from the German.) (From the same.)

9. Trois lettres sur Hofwyl à propos de la brochure de M. St. Marc Girardin sur l'instruction intermédiare. Three Letters on Hofwyl, written in consequence of Mr. St. Marc Girardin's pamphlet on Intermediate Instruction, 1835.

10. Mittheilungsblatt für die freunde der Schulverbesserung im Kanton Berne, 1832. Journal of the Friends of Improvement in the Schools. (From the same.)

FRIBURG.

Uber die Bethätigung des Fleisses in Schulen von Girard, 1836. On the Excitement of Industry in Schools, by Girard, 1836. (From Father Girard.)

GENEVA.

1. Rapport au Conseil Représentatif sur un projet de loi relatif à la Direction et à l'Administration des établissemens d'Instruction Publique, par M. le Syndic Girod, 1833. Report to the Representative Council upon a proposed Law, in reference to the administration of establishments for Public Instruction, by Syndic Girod, 1833. (From Professor Decandolle.)

2. Rapport au Conseil Représentatif sur le projet de loi relatif à la direction et à l'Administration des établissemens d'Instruction Publique, fait au nom de la commission nommeé pour l'examiner, par M. le Prof. A. de la Rive, 1833. Report to the Representative Council on the Projected Law in reference to the Administration of Establishments for Public Instruction, made by Professor de la Rive, in the name of the committee appointed for that purpose, 1833. (From the same.)

3. Loi sur la Direction et l'Administration des établissemens d'Instruction Publique, 1834. Law Regulating the Administration of Establishments for Public Instruction, 1834. (From the same.)

4. Rapport au Conseil Représentatif sur le projet de loi relatif aux écoles, 1835, par M. le Syndic Lullin. Report to the Representative Council upon the Projected Law in relation to Schools, 1835, by Syndic Lullin. (From the same.)

5. Règlement sur l'Inspection et la Surveillance des écoles primaires, 1834. Regulations for the Inspection and Superintendence of Primary Schools, 1834. (From the same.)

6. Rapport au Conseil Représentatif sur un Projet de Loi sur les écoles primaires, 1835, par M. Macaire Prinsep. Report to the Representative Council on a Projected Law on Primary Schools, 1835, by Mr. Macaire Prinsep. (From the same.)

7. Loi sur les écoles primaires, 1835. Law on Primary Schools, 1835. (From the same.)

8. Arrêté sur l'Enseignement Religieux dans les écoles primaires, 1835. Decree in reference to Religious Instruction in Primary Schools, 1835. (From the same.)

9. Rapports du Comité de l'école rurale de Carra, pour 1835 et 1836. Reports of the Committee on the Rural School of Carra, for 1835 and 1836. (From the Syndic Vernet-Pictet.)

10. Rapport au Conseil Représentatif sur l'Organisation des Colléges de Genève et de Carouge, 1835, par M. le Syndic Girod. Report to the Representative Council on the Organization of the Colleges at Geneva and Carouge, 1835, by Syndic Girod. (From Professor Decandolle.)

11. Loi sur les Colléges de Genève et de Carouge, 1835. Law Regulating the Colleges of Geneva and Carouge, 1835. (From the same.)

12. Rapport au Conseil Représentatif sur un Projet de Loi relatif aux Colléges de Genève et de Carouge, 1836, par M. le Professeur Macaire Prinsep. Report to the Representative Council on a Projected Law in reference to the Colleges at Geneva and Carouge, 1836, by Professor Macaire Prinsep. (From the same.)

13. Arrêté sur l'Enseignement Religieux dans les Colléges de Genève et de Carouge, 1836. Decree in reference to Religious Instruction in the Colleges of Geneva and Carouge, 1836. (From the same.)

14. Règlement sur les Colléges de Genève et de Carouge, 1836. Regulations for the Colleges of Geneva and Carouge, 1836. (From the same.)

15. Rapport au Conseil Représentatif sur le Projet de Loi relatif à l'Organisation de l'Académie, 1835, par M. l'Ancien Syndic Fatio. Report to the Representative Council on the Projected Law in reference to the Organization of the Academy, 1836, by ex-Syndic Fatio. (From the same.)

16. Rapport au Conseil Représentatif sur le Projet de Loi sur l'Académie, 1835, par M. le Docteur Vaucher. Report to the Representative Council on the Projected Law on the Academy, 1835, by Dr. Vaucher. (From the same.)

17. Loi et Règlement sur l'Académie de Genève, 1835. Law and Regulations of the Academy of Geneva, 1835. (From the same.)

18. Cours de l'École Industrielle, 1837. Course of Study at the School of Arts. (From Mr. Prevost Martin.)

LAUSANNE.

1. Lois sur l'Instruction Publique, 1833–34. Laws on Public Instruction, 1833–34. (From Professor Chavannes.)

2. Circulaire adressée aux Commissions chargées de l'Inspection des écoles sur

les Objets dont les écoles doivent être pourvues. Circular addressed to the Committees of Inspection in reference to the articles which ought to be found in the Schools. (From the same.)

3. Circulaire sur l'Administration des écoles adressée aux Commissions Communales d'Inspection, 1834. Circular addressed to the Committees of Inspection in reference to the Administration of the Schools, 1834. (From the same.)

4. Instructions pour les Commissions chargées de l'Inspection des écoles, 1835–36–37. Instruction to the Committees charged with the Inspection of Schools, 1835–36–37. (From the same and the Secretary of the Council of Public Instruction.)

5. Loi du 24 Janvier, 1837, sur les écoles publiques primaires. Law of the 24th of June, 1837, on Public Primary Schools. (From Professor Chavannes.)

6. Instruction sur les objets nécessaires pour l'exposition des notions élémentaires des sciences naturelles dans les écoles primaires, 1834. Direction in reference to the objects required for giving elementary notions of Natural Sciences in the Primary Schools, 1837. (From the same.)

7. Rapport sur les écoles primaires du Canton de Vaud pour l'année, 1836. Report on the Primary Schools of the Canton of Vaud, for 1836. (From the same.)

8. Questions addressés aux commissions chargées de l'inspection des écoles. Questions (blank forms) addressed to the Committees of Inspection of the Schools. (From the same.)

9. Règles de l'école (pour les écoles primaires.) Rules for the Primary Schools. (From the same.)

10. De l'instruction publique dans le canton de Vaud par Gindroz, 1837. On Public Instruction in the Canton of Vaud, by Gindroz, 1837.

11. Mémoire présenté á Monseigneur l'évèque de Lausanne et Genève par le vénérable clergé du Canton de Fribourg, au sujet de la dernière loi sur les écoles primaires 1830. Memorial presented to the Bishop of Lausanne and Geneva, by the Clergy of the Canton of Friburg, in reference to the last law on Primary Schools, in 1834.

12. Rapport fait par le Comité de l'École Normale Provisoire. Report made by the Committee of the Provisional Normal School, 1835. (From *Prof.* Chavannes.)

13. Règlement pour l'École Normale, du 23d Septembre, 1835. Regulations for the Normal School, September 23d, 1835. (From Rev. Director Gauthey.)

14. Notice sur l'École Normale du Canton de Vaud, par son Directeur L. F. F. Gauthey, Pasteur, extrait du Journal de la Société d'Utilité Publique, 1835. Notice of the Normal School of the Canton of Vaud, by the Rev. Director L. F. F. Gauthey, extracted from the Journal of the Society of Public Utility, 1835. (From the author.)

15. Règlement de l'École Normale pour les Institutrices. Regulations of the Normal School for Female Teachers. (From the same.)

16. Règlement du 7 Août, 1835, pour les écoles Moyennes. Regulations for the Middle or Industrial Schools, August 7th, 1835. (From Professor Chavannes.)

LUCERNE.

1. Gesetz über das Erziehungs und öffentliche Schulwesen, 1830. Law on Education and Public Instruction, 1830. (From Mr. Rietschi, director of the normal school.)

2. Gesetz über die Wiederholungs und Fortbildungsschulen, 1833. Law on the Schools for Repetition, 1833. (From the same.)

3. Vollziehungs Beschluss über das allgemeine Erziehungs Gesetz in Betreff des Primar und Sekundar Schulwesens, 1830. Law on General Education in reference to Primary and Secondary Instruction, 1830. (From the same.)

4. Beschluss die Entschädigung für das Lokal der Sekundar Schulen regulirend, 1831. Law regulating the locality of secondary schools, 1831. (From the same.)

5. Schulplan für die höhere Central Lehranstalt so wie für die Lateinischen Schulen im Kanton, 1830. Plan of Instruction for the higher central school, and for all the Latin Schools in the Canton, 1830. (From the same.)

6. Beschluss die Disziplinar Verordnungen für die höhere Central Lehranstalt enthaltend, 1830. Regulations for the discipline at the higher Central school, 1830. (From the same.)

7. Disziplinarverordnung für die höhere Centrallehranstalt, &c., 1833. Regulations of the higher Central normal school, 1833. (From the same.)

8. Beschluss die Aufstellung einer Schuldirection bey der höheren Centrallehranstall enthaltend, 1831. Law for the appointment of a school direction for the higher Central school, 1831. (From the same.)

9. Organisation der Schuldirection und Disciplinarverordnung für die Centrallehranstalt, 1836. Organization of the school direction and regulations for discipline at the Central school, 1836. (From the same.)

10. Verordnungen und Studenplan für die Zoglinge des Lehrer Instituts des Kantons Luzern. Regulations and course of study for the pupils of the normal school of the canton of Lucerne. (From the same.)

NEUFCHATEL.

Réglemens pour la Maison des Orphelins de Neufchatel. Regulations for the Orphan-house at Neufchatel. (From Mr. Borel, director.)

THURGOVIA.

1. Allgemeiner Bericht über den Zustand des Thurgauischen Schulwesens in 1833–34–35. General report on the state of public instruction in Thurgovia, in 1833–34–35. (From Mr. Wehrli.)

2. Unterrichtsplan für die Elementarschulen des Kanton Thurgau, 1837. Plan of instruction for the elementary schools of the Canton of Thurgovia, 1837. (From the same.)

3. Lectionsplan für die Normalschul in Kreuzlingen, 1837. Course of study at the normal school in Kreuzlingen, 1837, (MS.) (From the same.)

YVERDUN.

Rapport sur l'Institut de M. Pestalozzi à Yverdun, 1810. Report on the Institution of Mr. Pestalozzi, at Yverdun, 1810. (From Father Girard, in Freyburg.)

ZURICH.

1. Bericht über das Waisenhaus in Zürich, 1836. **Report on the Orphan-house at Zurich, 1837.** (From Burgomaster Hess.)

2. Gesetz über die Organisation des gesammten Unterrichtswesens im Kanton Zürich, 1832. **Law on the Organization of the general plan of instruction in the Canton of Zurich, 1832.**

3. Geschäftsordnung für die Bezirksschulpflegen, 1833. **Regulations for the committees of school districts, 1833.** (From Burgomaster Hess.)

4. Geschäftsordnung für die Gemeindsschulpflegen, 1833. **Regulations for the committees of school communities, 1833.** (From the same.)

5. Verordnung für Repetir und Singschulen, 1835. **Regulations relating to schools for singing and repetition, 1835.** (From the same.)

6. Verordnung betreffend die Leitung von Schulgemeindsversammlungen, 1836. **Regulations relating to the meetings of school communities, 1836.** (From the same.)

7. Verordnung über Ordnung und Zucht in den Volksschulen, 1836. **Regulations for discipline in common schools, 1836.** (From the same.)

8. Beschluss betreffend die Einführung der Lehrmittel für den Gesangunterricht, 1833. **Resolution for introducing the required means of instruction in singing into the schools, 1833.** (From the same.)

9. Der Erziehungsrath betreffend die Berichterstattung über die Volksschulen, von 1834–5. **The councillor of education prescribing the form of report on public schools, for the years 1834–35.** (From the same.)

10. Gesetz über die Errichtung von Musterschulen, 1834. **Law on the establishment of model schools, 1834.** (From the same.)

11. Gesetz betreffend die höheren Volksschulen, 1833. **Law relating to the higher common schools, 1833.** (From the same.)

12. Reglement für das Schullehrer Institut, 1832. **Regulations for the Teacher's Institute, 1832.** (From the same.)

13. Gesetz betreffend die Bildung einer Classe von Präparanden für den Schullehrerstand, 1834. Reglement von 1836. **Law relating to the establishment of a preparatory class for candidates for the profession of teacher, 1834. Regulations of 1836.** (From the same.)

14. Verordnung über die Ertheilung von Ruhegehalten an Volksschullehrer, 1834. **Regulations relative to pensions for teachers of common schools, 1834.** (From the same.)

15. Reglement für die Schullehrerconferenzen, 1835. **Regulations for the meetings of teachers, 1835.** (From the same.)

16. Reglement über die Prüfungen der Volksschullehrer, 1835. **Regulations for the examination of teachers for common schools, 1835.** (From the same.)

17. Reglement über die Prüfungen der Sekundarlehrer, 1835. **Regulations for the examination of teachers for secondary schools (higher primary), 1835.** (From the same.)

18. Gesetz über das Schullehrerseminar, 1836. **Law on the normal school, 1836.** (From the same.)

19. Provisorisches Reglement für die Aufsichtsbehörde des Schullehrer Seminars, 1837. Provisory regulations for the superintending board for the normal school, 1836. (From the same.)

20. Stundenverzeichniss des Schullehrer Seminars, 1837. Course of study at the normal school, 1837. (From the same.)

21. Gesetze und Verordnungen für die Hochschule in Zurich, 1832. Laws and regulations for the University of Zürich, 1832. (From the same.)

22.* Ansichten über den Zustand des Volksschulwesens im Kanton Zürich von Scherr, 1831. Views on the state of public instruction in the Canton of Zurich, by Scherr, 1831.

23. Entwurf eines Gesetzsvorschlages zur Organisation des Volksschulwesens im Kanton Zürich, 1832. Sketch of a projected law on the organization of public instruction in the Canton of Zurich, 1832.

24. Über Bildungsstufen, Lehrkurse, Klasseneintheilung in der Volksschule von Scherr, 1833. On the plan of instruction, course of studies, and division of classes in common schools, by Scherr, 1833.

25. Entwurf eines allgemeinen Unterrichtsplanes für die Primarschulen des Cantons Zürich, 1836. Sketch of a general plan of instruction for primary schools in the Canton of Zurich, 1836. (From Burgomaster Hess.)

## BELGIUM.

### BRUSSELS.

1. Projet de loi pour l'Enseignement publique en Belgique, 1832. Projected law on Public Instruction in Belgium, 1832.

2. Règlement pour l'école primaire modèle de Bruxelles, 1836. Regulations for the Primary Model School at Brussels, 1836. (From Mr. Ducpétiaux.)

3. Distribution des Occupations de l'école primaire modèle. Distribution of Time in the Primary Model School, 1838, (MS.) (From the same.)

4. Réglement de la Société pour l'Instruction primaire et populaire. Regulations of the Society for Primary Instruction, 1837. (From the same.)

### LIEGE.

1. Collection de Rapports sur l'Instruction primaire dans la Province de Namur, et en général sur l'état de cette instruction dans les diverses provinces du Royaume, de 1825 à 1830. Collection of Reports on Primary Instruction in the Province of Namur, and on the condition of Primary Instruction in general, in the different provinces of the kingdom, from 1825 to 1830. (From Mr. Arnould.)

2. Règlement de la Société d'Encouragement pour l'Instruction Élémentaire dans la Province de Liège, 1829. Regulations of the Society for Promoting Elementary Instruction in the Province of Liege, 1829. (From Mr. Ducpétiaux.)

* These documents are placed last, because they are not official, but drawn up by an individual: they have, however, had great influence in giving a form to public primary instruction in Zurich.

3. Programme des Cours de l'École des Arts et Manufactures et des Mines, 1836–37. Programme of Lectures at the School of Arts and Manufactures and of Mines, 1836–37. (From the Rector of the University, M. Dupont.)

4. Programme des Cours à l'Université de Liège, en 1838. Programme of Lectures at the University of Liege, 1838. (From the same.)

## HOLLAND.

### AMSTERDAM.

1. Notes sur la Maison des Orphelins Bourgeois à Amsterdam, 1837. Notes on the Burgher Orphan-house at Amsterdam, 1837. (MS.) (From Professor Den Tex.)

2. Het Wijze en Weldadige der Schoolverordeningen door's lands hooge magten vastgesteld, in het jaar 1806. On the Utility of the Regulations for the Schools, as ordered by Government in 1806.

3. Verhandeling over de volstrekt noodzakelijke kundigheden welke in de openbare en armenscholen behooren medegedeeld te worden, 1820. Treatise on the Instruction which should be given in Public and Poor Schools, 1820. (From Professor DenTex.)

4. Series Lectionum et Institutionum quæ habentur a Professoribus Illustris Athenæi Amstelædamensis, 1838. List of Lectures delivered by the Professors of the Athenæum in Amsterdam, in 1838. (From the same.)

5. De la Colonie de Fredericksoord, par M. de Keverberg, 1821. On the Colony of Fredericksoord, by Mr. de Keverberg, 1821.

6. Huishoudelijke Bepalingen voor de vrije Koloniën volgens de jongste Besluiten der permanente kommissie der Maatschappij van Weldadigheid, 1822. Domestic Regulations for the Free Colonies, according to the last Resolutions of the Committee of the Society for Public Utility, 1822.

7. Verzameling van Wetten en Verordeningen der Maatschappij van Weldadigheid, 1820. Collection of Laws and Regulations of the Society for Public Utility, 1820.

### THE HAGUE.

1. Namen van eenige Heeren, welke vroeger behoord hebben tot de *Fondatie* van de Vrouwe van Renswoude, afdeeling 's Gravenhage, (MS.) Names of some of the pupils educated upon the Renswoude Foundations at the Hague, (with their occupations.) (From the Master.)

2. Arrêté du 27 Mar, 1830, contenant des Modifications aux Dispositions existantes au sujet de l'Instruction. Proposed Decree of the 27th March, 1830, containing Modifications to the present Regulations in regard to Instruction. (From Inspector Wynbeek.)

3. Tafelen van Werkzaamheden in te Dag en Avond-school, 1837. Course of Study at the Day and Evening School, 1837.

4. Méthode pour apprendre l'art d'écrire suivant les quatre fondamens, 1837. Method of learning to Write, according to the four Fundamental Rules, 1837.

5. Verdeeling der Klassen voor de Koninklijke Muzijk School, 1837. Division of classes in the Royal Music School, 1837. (From Mr. Simons.)

HAARLEM.

1. Verslag nopens den staat der hooge, middelbare en lagere scholen in 1835, gedaan aan de Staten Generaal ingevolge art 226 der grondwet. Report on the State of Higher, Middle, and Lower Schools in 1835, made to the States General. (From Inspector Wynbeek.)

2. List von Boeken voor de lurschool in Harlaem, 1837. List of Books used in the Normal Seminary and its Elementary School at Haarlem, 1837. (From Director Prinsen.)

ROTTERDAM.

De l'Instruction Primaire en Rotterdam, par Victor Cousin, 1836. On Primary Instruction in Rotterdam, by M. Cousin, 1836. (From the Author.)

UTRECHT.

1. Eleves welke sedert, 1824, de Fundatie van Renswoude verlaten hebben. Voormalige Eleves, welke nog in lerer zyn, en verdienster hebben. (MS.) List of Pupils who have left the Renswoude Foundation since 1824, and of some former Pupils of the Foundation. (From the Director.)

2. Course of Study of the five classes of the Latin School. (MS.) (From Mr. Van Bolhuis.)

3. Over de tegenwoordige inrigting der Latijnsche School te Utrecht, door J. H. Van Bolhuis, 1837. On the present arrangement of the Latin School at Utrecht, by J. H. Van Bolhuis, 1837.

## AUSTRIA.

LINTZ.

Einladung zur öffentlichen Prüfung in der Normal Hauptschule, 1838. Programme for the Public Examination of the Model High School, 1838. (From Director Pauspertl.)

PRAGUE.

1. Geschichte des Waiseninstituts zum Heiligen Johann. History of the Orphan-house of St. John, 1785. (From Director Lampa.)

2. Darstellung der Verwaltung und Rechnung des Waisenhauses zum Heiligen Johann, in 1834–35, und 1835–36. Report on the Administration and Expenditure of the Orphan-house of St. John, in 1834–35, and 1835–36. (From the same.)

3. Tagesordnung, Schulplan und Verhaltungs Regeln für die Zoglinge des Waisenhauses zum Heiligen Johann. Distribution of Time, Plan of Instruction, and Regulations of Discipline in the Orphan-house of St. John, (MS.) (From the same.)

4. Kurze Übersicht des Schulwesens in Österreich, 1838. Short View of Public Instruction in Austria, 1838, (MS.) (From Mr. Partl.)

5. Politische Verfassung der Deutschen Schulen in den K. K. Deutschen Erbstaaten, 1828. Plan of Organization of all the German Schools in Austria, 1828. (From the Rev. Mr. Schneider.)

6. Erster Jahresbericht über die Kleinkinderbewahr Anstalt am Hradek, 1833. First Annual Report on the Infant School at Hradek, 1833. (From Mr. Sparshil.)

7. Einladung zur öffentlichen Prüfung der Muster Hauptschule in 1792, 1798, und 1838. Programme for the Public Examination of the Model High School in 1792, 1798, and 1838. (From the director.)

8. Darstellung der technischen Lehranstalt und Realschule von Baron von Henniger, 1835. Description of the Technical Institution and Real School, by Baron von Henniger, 1835. (From Baron Henniger von Eberg.)

9. Ordnung der Vorlesungen in der technischen Lehranstalt und Schulplan für die Realschule, 1837. Courses of Lectures in the Technical Institution and Plan of Instruction in the Real School, 1837. (From the same.)

10. Sammlung der Verordnungen und Vorschriften über die Verfassung der Gymnasien, 1812. Collection of Regulations for the Organization of the Gymnasia, 1812. (From Professor Swoboda.)

11. Personal Stand und Vorlesungen an der Universität in 1837 und 1838. List of Professors and Courses of Lectures at the University in 1837–38. (From Professor Hessler.)

SALTZBURG.

1. Einladung zur öffentlichen Prüfung in der Normal Hauptschule, 1838. Programme for the Public Examination of the Normal High School, 1838. (From Director Maier.)

2. Ordnung der Deutschen Schulen im Stadtbezirke Salzburg, 1837–38. Plan of Instruction in the Elementary Schools of Saltzburg, 1837–38. (From the same.)

VIENNA.

1. Letter from Berlin relating to the Schools and the School-books of Austria.

2. Notes on the Schools of Vienna, (MS.)

3. Einladung zur öffentlichen Prüfung in der Normal Hauptschule bei St. Anna, 1838. Programme for the Public Examination of the Model High School at St. Anna, 1835. (From Director Vogl.)

4. Specimens of Writing and Linear Drawing, from the Model High School. (From the same.)

5. Skizzirter Entwürf der Gymnasial Studien in Österreich. Sketch of a projected course of Studies for the Gymnasia of Austria, 1838. (From Vice-Director Walsch.)

6. Juventus Caesareo Regii Gymnasii Academici Viennae e Moribus et Progressu in Literis censa exeunte, 1837. List of the Pupils in the Imperial Gymnasium at Vienna, in the order of merit, 1837. (From the same.)

7. Statuten der K. K. Theresianischen Ritterakademie, 1802. Statutes for the Academy for Noblemen, called the Theresianum, 1802. (From Vice-Director Brukner.)

8. Verfassung des Polytechnischen Instituts, 1818. Organization of the Polytechnical Institute, 1836. (From Director Prechtl.)

9. Vorlesungen am Polytechnischen Institut in 1838. Courses of Lectures at the Polytechnical Institute in 1836. (From the same.)

10. Bericht über die Verfassung der Ingenieur Akademie, 1837. Report on the Organization of the Academy for Engineers, 1837. (From the director.)

## BADEN.

### HEIDELBERG.

1. Academische Gesetze für die Universitaten Heidelberg und Freiburg. Laws and Regulations for the Universities of Heidelberg and Freyberg, 1825.

2. Personalbestand und Verzeichniss der Vorlesungen an der Universität Heidelberg, in 1837–38. Professors and students, and list of courses of lectures at the University of Heidelberg, in 1837–38.

## BAVARIA.

### BAYREUTH.

Dr. Graser's Erzeihung's Plan, seine Ansichten und Ideen. Dr. Graser's System of Instruction, his views and ideas. (MS.)

### MUNICH.

1. Lehrbezirk sämmtlicher Gegenstände der Elementarschulen. View of the Extent of the Subjects of Instruction in the Elementary Schools, 1831.

2. Über den Zustand der Werktagsschulen und Verzeichniss der Preisvertheilung in 1837. On the Condition of the Common Schools, and a list of the Distribution of Prizes in 1837.

3. Verzeichniss der verordneten Schulbücher. Catalogue of Prescribed School-books, 1836.

4. Vorschriften die Bildung der Schullehrer betreffend, 1836. Regulations in Relation to the Education of Teachers, 1836.

5. Jahresbericht des K. Gymnasiums in München, 1837. Annual Report of the Royal Gymnasium in Munich, 1837. (From Director Hocheder.)

6. Verfassung des K. Erziehungs Instituts für Studirende, 1831. Organization of the Royal Boarding School preparatory to the University, 1831. (From Director Geyr.)

7. Jahresbericht der Landwirthschaft und Gewerbeschule, 1837. Annual Report of the Agricultural and Trades' School, 1837. (From Director Pauli.)

8. Programm der K. Polytechnischenschule, 1833. Programme of the Royal Polytechnical School, 1833. (From the same.)

9. Verzeichniss der Vorlesungen an der Universität, in 1836. Courses of Studies at the University in 1838.

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Jahresberichte der Handels Gewerbeschule in Nürnberg, von 1834 bis 1837. Annual Reports of the Commercial and Trade School, from 1834 to 1837. (From Director Mönnich.)

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### BREMEN.

1. Anordnung der Lehrstunden in der Vorschule, 1837–38. Plan of Instruction in the Preparatory School, 1837–38. (From Prof. Strack.)

2. Verzeichniss der Lehrstunden in der Handelschule, 1837–38. Plan of Instruction in the Commercial School, 1837–38. (From the same.)

FRANKFORT ON MAINE.

1. Tagesordnung, Lectionsplan und Speiseordnung im Waisenhause, 1838. Distribution of time, plan of instruction, and table of diet in the Orphan-house, 1838. (From Mr. Schäffer, head master.)

2. Kurze Geschichte der Musterschule in den sechs ersten Jahren ihres Bestehens, 1832. Short account of the Model School during the first six years of its existence. (From Director Bagge.)

3. Einladungschriften zur öffentlichen Prüfung in der Musterschule, 1833–38. Programmes for the public examination at the Model School, 1833–38. (From the same.)

4. Stundenplan der Musterschule, 1837–38. Plan of Instruction in the Model School, 1837–38. (From the same.)

5. Verzeichniss der Lectionen im Gymnasium für das Winter-Halbjahr, 1837–38. Plan of Instruction in the Gymnasium for the winter term, 1837–38.

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1. A short account of the former and present organization of the Orphan-house, (MS.) Reply to a circular letter, addressed by the secretary of the society for Elementary Instruction of Paris, (MS.) (From Dr. Kröger.)

2. Rede zu seiner fünf und zwansigjährigen Amts-Jubelfeier, von Dr. Kröger, Katecheten am Waisenhause. Speech at the celebration of the twenty-fifth anniversary of his superintendence, by Dr. Kröger, catechist of the Orphan-house. With notes relating to the establishment. (From the same.)

3. Instruction für die Aufseherinnen der hiesigen Warteschulen. Regulations for the superintending females of the infant schools.

4. Rede und Bericht des Schul-und Erziehungs-Wesens in Hamburgh, 1835. Report upon the schools of Hamburgh, 1835. (From Dr. Kröger.)

5. Darstellung und Beurtheilung der Erziehungs systeme von Dr. J. C. Kröger. Account and criticism of systems of Education, by Dr. Kröger. (From the same.)

6. Prospectus der Handelschule. Prospectus of the Commercial High School.

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1. Nachricht über die de Laspee'sche Erziehungsanstalt, 1833. Report on the boarding-school of de Laspee, 1833. (From Mr. Leyendecker.)

2. Lehrplan und Bedingungen der aufnahme für Schuler des de Laspee'schen Instituts, 1834. Plan of instruction and conditions of admission into the boarding-school of de Laspee. (From the same.)

3. Programm der öffentlichen Prüfung in der de Laspee'schen Erziehungsanstalt, 1835. Programme of the public examination at de Laspee's boarding-school, 1835. (From the same.)

4. Vorschlag eines allgemeinen Erziehungshauses für talentvolle arme Knaben. Project of a boarding-school for intelligent poor boys. (From Councillor Albrecht.)

5. Die Versuchsanlagen des landwirthschaftlichen Vereins an die Herzogl. Nassauische Ackerbauschule in Wisbaden. Description of the agricultural school at Wisbaden and the trial plantations of the agricultural society. (From the same.)

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1. Sammlung der auf den öffentlichen Unterricht in Preussen sich beziehenden Gesetze und Verordnungen, 1826. Collection of laws and regulations relating to public instruction in Prussia, 1826.

2. Das Volks Schulwesen in Preussen, 1834. On public instruction in Prussia; a collection of laws in reference to elementary instruction, 1834.

3. Regulations from the ministry on public instruction in regard to the Gymnasiums in Prussia, 1837, (MS.) (Through the Hon. H. Wheaton.)

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1. Der Unterrichtsplan für das Annaburger Militair Knaben Institut wie es vom Octbr., 1834, an zu befolgen ist. Plan of Instruction for the Soldier's School at Annaburg, as it will be carried into execution in October, 1834. (From Dr. Harnisch.)

2. Tagesordnung der Zöglinge, Dienstinstruction für den Prediger und Schulinspector, für die sieben Classenlehrer und für den Werkmeister. Distribution of Time for the Pupils, Regulations relating to the duties of the Clergyman and School Inspector, to the seven teachers of the different classes, and to the workmaster. (From the same.)

3. Entwürf zu den vierteljährlichen und Jahresberichten. Sketch of Quarterly and Yearly Reports. (From the same.)

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1. Die Wadzeck Anstalt in Berlin. Jahresberichte im Jahre, 1834–35. Statuten der Wadzeck Anstalt, 1834. Description of the Wadzeck Institution for Infants. Yearly Reports for 1834 and 1835. Statutes of the Institution, 1834. (From the Inspector of the House.)

2. Säcular Feier des Schindlerschen Waisenhauses, 1830. Secular Festival of Schindler's Orphan-house, 1830. (From Rev. Mr. Klöden.)

3. Relation de l'École de Charité à Berlin, en 1836. Account of the Charity School in Berlin, in 1836. (From the Steward of the French Orphan-house.)

4. Grundsätze nach welchen die hiesigen Erwerbschulen eingerichtet sind, 1833. Principles according to which the Schools of Industry have been established, 1833. (From Mr. Neufind.)

5. Studenplan der Elementarschulen, Nrn. 5, 7, und 8, i 1837. Plan of instruction in the Elementary Schools, Nos. 5, 7, and 8, i 1837, (MS.) With specimens of writing. (From Messrs. Pfeiffer, Schantz, Vogeler, and Hilbert, teachers.)

6. Studenplan und Lehrbücher in der Dorotheenschu
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7. Nachricht über die Einrichtung des Seminars fü
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8. Zweck und Einrichtung der Königlichen Semin
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9. Stundenplan und Lehrgegenstände am Friedrich
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Gymnasium, in 1837, (MS.) (From Director Spilleke.

10. Lectionsplan für das Schullehrer Seminar in Berl
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11. Zweck, Einrichtung, und Lehrplan des Colnis
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12. Über Zweck und Lehrgegenstände des Gewerbes
pose and the subjects of Instruction in the Trades' Sch
tor Kloden.)

13. Nachricht an das Publikum über den Zweck u
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14. An die Eltern derjenigen Schüler welche die stä
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15. Programm zur Prüfung der Zöglinge der Gewerb
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16. Über die Fortbildung der Gewerbtriebenden aus
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17. Verzeichniss des Personals und des Studirenden a
rich Wilhelm Universität in 1837. List of Officers an
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18. Verzeichniss der Vorlesungen welche auf der Un
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19. Zweck und Gegenstände des Unterrichts in dem
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and Manufactures. (From Councillor Beuth.)

20. Lectionsplan und Textbücher in dem Königli
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21. Nachricht über die Eiselenschen Anstalten für
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1. Das Waisenhaus zu Bunzlau in Schlesien in seiner Geschichte von der Stiftung bis zum Jahre, 1814, dargestellt. History of the Orphan-house at Bunzlau since its origin up to 1814. (From Inspector Kruger.)

2. Nachricht über das Seminar und die Königliche Waisen und Schulanstalt zu Bunzlau. Notes on the Normal School, and the Royal Orphan-house and School at Bunzlau, from the year 1830 to 1834. (From the same.)

3. Geschichte der Königl. Waisen und Schulanstalt und des Seminars zu Bunzlau nebst kurzer Darstellung der jetzigen Einrichtung der ganzen Anstalt, 1837. History of the Royal Orphan-house, and the Normal and Burgher School connected with it, besides a short description of the present organization of the whole institution, 1837. (From the same.)

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Hausordnung und Stundenplan des Königl. Schullehrer Seminars in Erfurt, 1832. Order of the House, Distribution of Time, and Course of Study in the Normal School at Erfurt, 1832.

HALLE.

1. Beschreibung des Hallischen Waisenhauses und der übrigen damit verbundenen Frankischen Stiftungen, 1799. Description of the Orphan-house at Halle, and of all the other Foundations, by Franke, connected with it, 1799.

2. Verzeichniss aller Anstalten unter dem Namen Frankesche Stiftungen und Anzahl von Lehrern und Schülern, 1837. List of all the Institutions under the name of Franke's Foundations, and number of Teachers and Pupils, 1837. (MS.) (From Dr. Niemeyer, Director.)

3. Stundenplan, Tagesordnung, Texthücher und jährliche Ausgaben des Waisenhauses, 1837. Course of Study, Distribution of Time, list of Text-books, and Yearly Expenses of the Orphan-house, 1837. (From the same.)

4. Belehrung für diejenigen welche die Aufnahme von Vaterlosen in die Waisenanstalt der Frankeschen Stiftungen nachsuchen, 1836. Instruction for those who request the admission of Fatherless Children into the Orphan-house of Franke's Foundations, 1836. (From the same.)

5. Ordnungen und Gesetze für die Zöglinge der Waisenanstalt. Laws and Regulations for the Pupils of the Orphan-house. (From Dr. Leibmann.)

6. Programm der Öffentlichen Prüfung der Bürgerschule in den Frankeschen Stiftungen, 1836. Programme of the Public Examination of the Burgher School belonging to Franke's Foundations, 1836. (From Inspector Trothe.)

7. Nachricht über die höhere Realschule welche den 4ten Mai, 1835, im Waisenhause zu Halle eröffnet werden soll. Notice relating to the opening of a higher Real School in the Orphan-house at Halle, the 4th of May, 1835. (From Dr. Niemeyer.)

8. Kurzer Bericht von dem Einrichtung und den Kosten in der mit der Lateinschen Schule, und der höhern Realschule verbundenen Erziehungsanstalt im Waisenhause zu Halle. Short Description of the Organization and the Expenses of the Boarding-house connected with the Latin School and the higher Real School in the Orphan-house at Halle, 1837. (From the same.)

9. Programm zur Öffentlichen Prüfung im der La
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nasium) belonging to Franke's Foundations, 1837.

10. Ordnungen und Gesetze für die Scholaren des
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11. Übersicht der Winterlectionen im Königlichen P
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1837–38. (From the same.)

12. Schulgesetze für das Königliche Pädagogium.
gogium. (From the same.)

13. Bericht über das Königliche Pädagogium zu Ha
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14. Index Scholarum in Universitate Halensi per hi
rum. Courses of Lectures to be delivered during the

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16. Über die Nothwendigkeit einer Reform im Gym
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Stundenplan und Textbücher des Seminars zu Mör
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Zahn, Director.)

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1. Die Landesschule Pforta ihrer gegenwärtigen un
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2. Bekanntmachung für Eltern und Vormünder die
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3. Jahresbericht über die Königl. Landesschule Pfor
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2. Hausordnung des Königlichen grossen Militär-W
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3. Kurze Darstellung der Organisation der Hohern

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4. Programm zur Öffentlichen Prüfung im Militär-Waisenhaus in 1819–22. Programme of the Public Examination in the Military Orphan-house in 1819–22. (From the Rev. Mr. Merkus.)

5. Die Civil Waisen Versorgungs Anstalt zu Potsdam, 1836. Description of the Institution for Orphans of Civil Officers in Potsdam, 1836. (From Councillor Von Türk.)

6. Die Waisen Versorgungs Anstalt für die Provinz Brandenburg zu Klein Glienicke bei Potsdam, 1833–35. Exemplare von Handschriften. Statutes of the Institution for Orphans in the Province of Brandenburg at Klein Glienicke, near Potsdam, 1833–35. Specimens of hand-writing, &c. (From the same.)

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8. Nachricht von der Einrichtung des Schullehrer Seminars zu Potsdam, 1835. On the Organization of the Normal School at Potsdam, 1835. (From Director Hientsch.)

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1. Description of the Normal School at Weissenfels, 1838, (MS.) (From Dr. Harnisch, Director.)

2. List of Text-books used at the Normal School, (MS.) (From the same.)

3. Für Eltern welche ihre Söhne für den Schulstand vorbereiten lassen wollen, 1837. Address to Parents who wish to have their Sons prepared for Admission into the Normal School, 1837. (From the same.)

4. Das Weissenfelser Schullehrer-Seminar und seine Hülfsanstalten, von dem Director Dr. W. Harnisch, 1837. The Seminary for Teachers at Weisenfels, and the institutions connected with it, 1838, by Dr. W. Harnisch. (From the same.)

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1. Elementar Volksschulgesetz für Sachsen, 1835. Law for Elementary Instruction in Saxony, 1835.

2. Die Obliegenheiten und Geschäfte der Sachsischen Volks Schullehrer. Duties of Elementary Teachers in Saxony. (From Inspector Lohrmann.)

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1. Geschichte und Verfassung des Dresdener Schulwesens, 1836. History and Organization of Public Instruction in Dresden, 1836. (From Mr. Vorwerk.)

2. Übersicht aller Öffentlichen Schulen in Sachsen, 1833. List of all the Public Schools in Saxony, 1833. (From Inspector Lohrmann.)

3. Bericht über den Padagogischen Verein zu Dresden, 1836. Report of the Pedagogical Society at Dresden, 1838. (From the Society.)

4. Die Pflichten der Schulgemeinden in Sachsen. Duties of the School Communes in Saxony.

5. Die Schule und das Schullehrer Seminar zu F
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6. Staats Handbuch für Sachsen, 1837. State
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7. Stundenplan für die Katholische Gymnasial
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8. Nachrichten über die Erziehungs Anstalt von
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9. Organisationsplan und Gesetze für Schüler der
stalt, 1835. Organization and Laws for Pupils of the
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10. Programm zur Öffentlichen Prüfung in der Tec
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11. Lehrplan der Technischen Bildungs Anstalt, 18
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12. Gesetze für Schüler der Technischen Bildungs
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13. Regulativ und Stundenplan für die K. S. Milit
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1. Jahrbuch für den Berg und Hüttenmann, für 183
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2. Regulativ für die K. S. Berg Akademie zu Freyb
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3. Inscriptionsschein und Verhaltungs Regeln für
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2. Erste Nachricht über die beabsichtigte Organisa
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3. Schulerbestand und Schulbücher der Bürgerschu
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4. Regulativ für die Schule der Polytechnischen
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5. Regulativ und Lehrplan des Öffentlichen Handels
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2. Form eines Alimentations Contrakts abgeschlossen bei der Direction des Waisen Instituts. Form of Contract between the Direction of the Orphan Institution at Weimar and a Foster-master. (From the same.)

3. Programm zur Öffentlichen Prüfung in der Bürgerschule, für 1833–34–37. Programme for the Public Examination at the Burgher School, for 1833–34–37. (From Director Schweitzer.)

4. Stundenverzeichniss des Seminars und der Bürgerschule, 1838. Exemplare von handschriften. Plan of Instruction of the Normal School and Burgher School, 1838. Specimens of hand-writing. (From the same.)

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1. Übersicht über die K. Lehranstalt für Land und Forstwirthschaft zu Hohenheim, 1834. Description of the Royal Institution for Agriculture and Forestry at Hohenheim, 1834. (From Mr. Oppel.)

2. Nachricht für diejenigen welche die K. Lehranstalt zu Hohenheim besuchen wollen. Address to those who intend to become Pupils of the Institution at Hohenheim. (From the same.)

3. Verzeichniss der Candidaten zu Hohenheim vo
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1. Die Gründung und Eröffnung der Erziehungsa
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2. Bedingungen der aufnahme von Zoglingen i
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3. Berichte über die Erziehungsanstalt in Stett
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1. Nachrichten von dem K. Waisenhause in den
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2. Raccolta d'Istruzioni sugli Studii. Collection
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3. Regolamento degli Studii da osservarsi in Ro
siastico, 1825. Regulations in relation to Instruction
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2. Catalogus Scholarum Piarum. Catalogue of Pi
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3. Plan of Instruction at the Scuole Pie at Floren
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2. Discipline da osservarsi per le sale di Custodia
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3. Guida pei Fondatori e Direttori delle Scuole
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5. Manuale di Educazione ed Ammaestramento pelle Scuole Infantili, 1833. Manual for the Education and Government in Infant Schools, 1833. (From the same.)

6. Istruzioni pei Maestri e per le Maestre delle Scuole Elementari Minori. Regulations for the Male and Female Teachers of the Lower Elementary Schools. (From the same.)

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8. Statistica della Istruzione Elementare nelle Provincei Austriachi Italiane. Statistics of the Elementary Instruction in the Italian Provinces of Austria. (From the Department of Public Instruction.)

9. Inviti al Pubblico Esame nelle Scuole Maggiore, maschile e femminile di Milano, e della tutta la Provincia di Lombardia, indicante gli Individue impiegati nella Scuole e loro Incumbenze, le Materie d'Insegnamento, ore Destinate a ciascuna di esse e Numero delle Alunne nelle diverse Classi, 1836–37–38. Programme of the Public Examination of the Higher and Lower Male and Female Elementary Schools in Milan, and in the whole Province of Lombardy, giving a list of all the Teachers, the Subjects of Instruction, the Time devoted to each Subject, and the number of Pupils in the different Classes, 1836–37–38. (From Mr. Cherubini.)

10. Notice sur l'Histoire de l'Instruction Publique en Lombardie. Historical Notice of Public Instruction in Lombardy, (MS.) (From the same.)

11. Per gli Esami degli Scolari ammaestrati secondo il Metodo Normale nella Chiesa di Brera, 1789. Programme of the Public Examination of the Pupils of the Model School of the Brera, 1789. (From Mr. Cherubini, Director of the High School at Milan.)

12. Istruzione pei Maestri di Disegno nelle Scuole Elementari Maggiori. Regulations for the Drawing Masters in the Higher Elementary Schools. (From Mr. Radaelli.)

13. Regolamento per l'Istituto Elementare e Ginnasiale Privilegiato nelle Contradi di Brera. Regulations for the Elementary and Latin School in Brera Street, 1838.

14. Regolamento per la Scuola Elementare di Boselli. Regulations for Mr. Boselli's Elementary School.

15. Norme per la Istituzione della Scuola Ginnasiale Privata di Boselli. Regulations and Course of Studies of the Private Latin School of Mr. Boselli.

16. Informazione del Ginnasio Convitto, Calchi Taeggi. Regulations for the Convent, called Calchi Taeggi, 1830.

17. Convitto di Educazione Femminile di Morand. Prospectus of Miss Morand's Convent for Female Education.

18. Casa di Civile Educazione per le Fanciulle di Bellotti. Mr. Bellotti's Boarding-school for Girls.

19. Stabilemento d'Istruzione Elementare, Ginnasiale e di Commercio di Lambartini, 1836. Prospectus of Lambartini's Elementary, Latin, and Commercial School.

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1. Specimen of Writing from the Orphan-house of th
2. Kalendarium Regii Archigymnasii Neopolitani, 183
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3. Progetto di Riforme pel regolamento della Pubblic
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2. Index Facultatum Tradendarum in Romano Socie
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3. Catalogus Universitatis Studiorum Romanæ, 1809
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versità. Collection of Regulations in relation to Public
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2. Condotta delle Scuole Cristiane, 1834. Organizat
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3. Calendarium et Libri ad Usum Scholarum Provinc
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4. Elenchus Clarissimorum Professorum Regii Archi
rerum quas docebunt, 1837–38. List of Professors and
Royal University, 1837–38. (From the same.)
5. Regolamento per le Università di Torino e di Gen
for the Universities of Turin and Genoa, 1822. (From
6. Regii Lettere patenti vietande di recarsi senza per
intraprendervi od a continuarvi gli studii, 1832. Royal O
at foreign Universities without special permission, 1832.
7. Manifesti del Magistrato della Riforma sopra Studi
tions made by the Board of Reform in relation to It
(From the same.)
8. Calendario Scolastico della Università, 1837–38.
University, 1837–38. (From the same.)
9. Stato Numerico degli Studenti inscritti sul regis

R. Università, 1837–38. Number of Students at the Royal University in 1837–38. (From the same.)

10. Tariffa degli Emolumenti per li Gradi Academici e di varii altri dritti. Tariff of Expenses for the Academical Degrees, and other Expenses. (From the same.)

11. Matriculation and other Certificates of the University. (From the same.)

VENICE.

1. Oraria della Casa degli Orfani, 1838. Distribution of Time at the Orphan-house, 1838. (From Baron Pascatori.)

2. Regolamento Disciplinale-Economico per l'Instituto degli Esposti di Venezia, 1836. Regulations of the Foundling Hospital of Venice, 1836. (From the same.)

3. Regolamento per le Scuole Infantili di Carita in Venezia. Regulations for the Infant Schools in Venice. (From the same.)

4. Numero delle Scuole Maggiore et Minori nella Villa di Venezia, 1838. Number of Higher and Lower Elementary Schools in Venice, 1838. (From the same.)

5. Tabella Generale indicante le Occupazioni degli Allievi della Scuola Navale, 1835–36. General List of the Occupations of the Pupils of the Naval School, 1835–36. (From Director Bordini.)

## No. II.

### EXTRACT FROM THE HISTORY OF THE ORPHAN HOSPITAL OF EDINBURGH.

*Referred to on page 12 of the Report.*

"In regard to the original principle and inherent tendency of such an institution. * * *

"It is neither to be denied nor disguised, that, among the multitude of charitable establishments which exist in this country, there may be some, which, originating in a very sincere but short-sighted philanthropy, do actually not conduce to the real and permanent interests of society; by which, especially in certain instances, some of the very evils may be multiplied which they were instituted to remedy, and of which the strong description that has been given may be but too true—'that they are little better than a tax upon industry for the support of idleness.'

"With such institutions, however, an establishment like the Orphan Hospital is neither to be confounded nor compared; provided always, that the original object be steadily kept in view, and that it be fenced and protected by the most rigid attention to the nature of every claim which is made upon its funds. The circumstances of misfortune and distress, which it professes to meet, are such as are involuntary, inevitable, and irremediable by other means. This statement no doubt assumes that the persons admitted to the benefits of the institution are those who, by any of the sudden and overwhelming visitations of Providence to which mankind are liable, have in early life been deprived of their parents, and

precipitated into a state of entire helplessness and des
that possesses the means, or an individual on whom th
ing their guardians and protectors, and of supplying
and for whose support and education no other provisio
ists, or can be called into operation. *And this is the re
the Orphan Hospital is designed.* Whilst no man in p
voluntarily make his children orphans—while every
will strive to ward off that event by which they would
that there exists in nature itself a certain safeguard ag
evils for which such an institution is intended to provi
the spontaneous establishment of a claim to a particip
in the case of life insurance, where a posthumous adva
nual payment, a man, from the mere love of life, and t
vation, would wish to make the worst pecuniary barga
general, will every human being struggle to keep his c
as great a distance as he can, from coming within the
orphan hospital."

## No. III.

### REGULATIONS OF HERIOT'S HO

*Referred to on Page* 19 *of the Re*

Regulations enacted by the governors of George H
13th day of October, 1834, as to the superintendence
boys at their leaving the institution and afterwards.

1. That a list be made up and submitted to the go
April and October, annually, (the periods of the electi
boys that are to leave the house in the June and Decem
port from the house-governor applicable to each boy, of
he may have made, of his dispositions, and stating wh
cular talent the boy may have shown.

2. That the parents or other relations of the boys th
in June and December, shall be required to state to th
mation and approval of the governors, at least one mon
periods, what profession or trade each proposes that th
with shall follow—who is the master they propose t
with the master—and, in particular, whether the master
boy in his family; and no boy shall be bound apprentic
tice fee, unless the governors shall previously approve
the terms, and master proposed.

3. Should the master not undertake the charge and
his family, then the parents or other relations of ea
with whom and by whom he is to remain and be maint
ticeship; also for the information and approval of the go

4. That annually, and before receiving payment of th
ters of the boys shall be required to give answers to th

is hereto annexed. First, for the information of the governors, as to the diligence and conduct of the boy under his charge for the previous year; and if not in family with him, then the person with whom each boy stays shall, in like manner, be called upon to give answers to queries. Second, as to the boy's conduct; and the boys themselves shall also annually be seen and examined upon the points or queries. Third, also hereto annexed; and it shall be made a condition in every indenture, that the master on the one hand, in the event of the boy's desertion, or being guilty of any flagrant act, and the boy on the other, in the event of his being turned away by his master, shall, within eight days, intimate the same to the treasurer of the hospital, otherwise each respectively shall forfeit all further allowance from the hospital.

5. That a record shall be kept, by the treasurer, of the boys so bound apprentices, and with whom, and under whose care each boy is to be during his apprenticeship, in which the preceding reports, or answers to queries, and any other facts, or circumstances which, during the course of the apprenticeship, may occur, relating either to the master or the boy, shall be engrossed; and which record shall, once a year at least, be laid before the governors, and at all times be open for their inspection.

6. That the allowance of £5 for clothes, made by the governors to the boys at the end of their apprenticeship, or any other allowance which the governors may think proper to grant, shall be given or withheld, as the governors shall think proper, upon an examination of the record as above, and shall not be paid, as at present, upon the discharge of the indenture at its termination, by the master.

7. That the indenture to be entered into under the approval of the governors, shall contain the precise terms which may have been agreed upon; and in place of taking the master bound, as at present, to maintain the boy, where he shall not agree to do so, then the person who is to have charge of him shall, either in the indenture, or by a separate letter of obligation, undertake to the governors the proper discharge of that duty.

## No. IV.

### QUERIES BY THE GOVERNORS OF HERIOT'S HOSPITAL.

*Referred to on page* 19 *of the Reports, and in the foregoing articles of the Appendix.*

FIRST.

Queries to be answered yearly by the masters of boys educated in George Heriot's Hospital, during their apprenticeships:

1. Is A. B., who went from George Heriot's Hospital to be your apprentice, still in your service; and, during the past year, has he ever deserted or been absent from your employment; and, if he has, when, for how long, and for what cause?

2. How many hours is he engaged in your employment, and how are his remaining hours, to the best of your knowledge, generally spent?

3. Does he apply himself diligently to his business, and is he civil, faithful,

and obedient; and has he made such progress in his business as was fairly to be expected of him?

4. Does he uniformly speak the truth, and are his associates proper companions?

5. When you have occasion to send him out in the way of business, does he return without unnecessary loss of time?

6. If he resides in your family, does he submit to the order of your family, keep good hours, and regularly attend public worship, and in what church, and in other respects conduct himself properly?

7. Is he cleanly in his person, orderly in his habits, and is his behaviour in general quiet and discreet, and such as you approve?

SECOND.

Queries to be annually answered by the persons with whom the boys reside, during the period of their apprenticeships:

1. Has A. B., who was educated in George Heriot's Hospital, been a boarder with you, and for how long?

2. Does he submit to the order of your family, and keep good hours; and how does he spend the hours he is not engaged in his business?

3. Is he cleanly in his person, and orderly in his habits?

4. Does he uniformly speak the truth, and are his associates proper companions?

5. Does he regularly attend public worship, and in what church, and in other respects conduct himself properly, and in such a manner as you approve?

THIRD.

Queries to be annually put to the boys during their apprenticeships:

1. How many hours are you engaged in your business daily, and how do you generally spend the remaining hours?

2. What books have you read during the past year, and in particular, are you in the habit of reading a portion of the Scriptures daily?

3. What church do you attend, and have you been regular in your attendance?

4. Have you prosecuted the studies you attended to in the hospital, and have you found any of these particularly useful to you in the business of life?

5. With whom have you resided since leaving the hospital, and have you found yourself comfortable with him?

6. What has been the state of your health?

## No. V.

### COURSES OF INSTRUCTION AND TEXT-BOOKS.

*Referred to on page 42 of the Report.*

A Course of Education for the Children of John Watson's Institution, Edinburgh, proposed to the Directors by Mr. Charles Marshall, head-master.

Sixth Year of Age. Alphabet, Lennie's Ladder. Seventh Year of Age. *Reading*, Lennie's Ladder, Sessional Reading Book. *Writing*, on slates. *Arith-*

*metic*, Addition, Subtraction, Multiplication, and Division Tables. EIGHTH YEAR. *Reading*, Sessional School Book, New Testament. *Writing*, on slates. *Arithmetic*, Ground Rules. *Geography*, Europe, Asia, Africa, and America. NINTH YEAR. *Reading*, New Testament, First Collection, Thomson's Catechism. *Writing*, in copy-books. *Arithmetic*, Four Compound Rules and Reduction. *Geography*, Great Britain and Ireland. *History*, Modern. TENTH YEAR. *Reading*, First Collection, Bible, Shorter Catechism. *Writing*, in copy-books. *Arithmetic*, Simple and Compound Proportion. *Geography*, Norway, Sweden, and Russia. *History*, Scotland. *Drawing*, on slates. ELEVENTH YEAR. *Reading*, Bible, Second Collection, Proof Catechism, Grammar. *Writing*, in copy-books. *Arithmetic*, Vulgar and Decimal Fractions. *Geography*, Prussia, Denmark, and Germany. *History*, England. *Drawing*, Sketching with black lead. *General Knowledge*, Science of Sounds. *Latin*, Latin Rudiments and Delectus. TWELFTH YEAR. *Reading*, Bible, M'Culloch's Collection, Proof Catechism, Grammar, English Composition. *Writing*, in Account-books. *Arithmetic*, Practice and Interest. *Geography*, France, Austria, Turkey in Europe, and Palestine. *History*, Ireland. *Drawing*, in water colours. *General Knowledge*, Mechanics, Optics, Zoology. *Mathematics*, Mensuration of Surfaces. *Latin*, Rudiments, Delectus, Cornelius Nepos, Turner's Exercises. THIRTEENTH YEAR. *Reading*, Bible, M'Culloch's Collection, Proof Catechism, Scripture, Biography, Grammar, English Composition. *Writing*, in Account-book and Ornamental Writing. *Arithmetic*, Involution, Evolution, Exchange, Algebra. *Geography*, Italy, Switzerland, Spain, Portugal. *History*, France. *Drawing*, chalk and water colours. *General Knowledge*, Chemistry, Pneumatics, Hydrostatics. *Mathematics*, Geometry, Mensuration of Solids, Heights, and Distances. *Latin*, Rudiments, Turner's Exercises, Cæsar, Ovid. *Greek*, Rudiments. FOURTEENTH YEAR. *Reading*, Bible, M'Culloch's Collection, Proof Catechism, Scripture Biography, Grammar, English Composition. *Writing*, Ornamental Writing and Book-keeping. *Algebra*. *Geography*, Ancient. *History*, Ancient. *Drawing*, Maps, Landscapes, Figures. *General Knowledge*, Chemistry, Geology, Meteorology. *Mathematics*, Practical Land Surveying. *Latin*, Rudiments, Mair's Introduction, Ovid, Virgil, Livy. *Greek*, Rudiments, New Testament.

# TABLE

**Of the general Distribution of Time in John Watson's Institution, of the Classification of the Children, and of the particular Distribution of Time in Teaching, according to a Scheme of Education formerly proposed to the Directors by Charles Marshall.**

| Distribution of Time. | | Classification of Children. | | Particular Description of Time in Teaching. | | |

# TABULAR VIEW

## Of the Hours of Employment and Exercise at Heriot's Hospital, Edinburgh, 1836.

| Sections. | English. | Writing. | Arithmetic, &c. | Latin. | House Governor's Class. | Gymnastic Exercises. | Play. |
|---|---|---|---|---|---|---|---|
| I. II. | 9 to 10<br>12 to 1 (Preparing lessons.)<br>6 to 7 | 5 to 6 | 2 to 3 | | | 10 to 11 | 11 to 12<br>1 to 2<br>3 to 4 |
| III. IV. | 10 to 11 (Elements of Latin.)<br>12 to 1<br>3 to 4<br>6 to 7 (Preparing lessons.) | 9 to 10<br>10 to 11<br>Posted boys.‡ | 1 to 2<br>4 to 5 | | | 11 to 12 | 2 to 3<br>5 to 6 |
| V. | 1 to 2<br>3 to 4<br>Posted boys.‡ | 4 to 5<br>10 to 11<br>Posted boys.‡ | 9 to 10 | 10 to 11<br>3 to 4 | 11 to 12 | 12 to 1 | 2 to 3<br>5 to 6 |
| VI. | 1 to 2* | 10 to 11<br>4 to 5<br>Posted boys.‡ | 3 to 4<br>11 to 12 Posted boys‡ for geometry. | 11 to 12†<br>4 to 5 | 9 to 10 | 12 to 1 | 2 to 3<br>5 to 6 |
| VII. | 1 to 2* | 4 to 5 | 11 to 12<br>3 to 4 | 9 to 10<br>1 to 2† | 10 to 11 | 12 to 1 | 2 to 3<br>5 to 6 |

***Week-day routine in Winter.***

Rise at 7, Prayers at 7½, Breakfast at 8. School and exercise as by schedule. Dinner at 1, except for sections I. and II. Supper at 8. Prayers at 8½. Retire at 9.

*Sunday's routine in Winter*

Rise at 7. Prayers at 8. Breakfast at 8½. Religious studies 9. Change of clothes, 10. Church, 10½. Dinner, 1. Church, 2. Exercise 4. Religious instruction, 6. Supper, 8. Prayers, 8½. Retire, 9.

*Drawing* lessons are given two hours in the week to the VI. and VII. class, each. *French* to the VII. class, five evenings in the week, an hour each. *Singing* three times a week, from 5 to 6, P. M.

* VI. and VII. on alternate days.

† Or drawing.

‡ Posted boys are those who are withdrawn from the Latin studies.

## LIST OF TEXT-BOOKS USED AT HERIOT'S HOSPITAL, EDINBURGH.

*English Department.* Sessional School Books, Nos. 1 and 2, National School Collection, Stewart's History of Scotland, Ruddiman's Rudiments.

The Grammatical Text-books are omitted as defective in the opinion of the teacher.

*Classical Department.* Eutropius, Selectæ Latini, Mair's Introduction, Adams' Latin Grammar, Ovid or Virgil, Horace, Anthologia, Dunbar's Greek and English Grammar, Minora.

*House-Governor's Department.* Guy's Geography, Porteous' Evidences, Watts' Catechism.

*Mathematics.* The instruction is principally oral. Euclid's Elements.

## LIST OF TEXT-BOOKS USED AT GEORGE WATSON'S HOSPITAL, EDINBURGH.

*English Department.* First Class. Modern Geography of the Edinburgh Academy, Stewart's English History, Simpson's Scotland, Lennie's English Grammar, Sessional School Collection, Stewart's Stories from the History of Scotland.

*Classical Department.* Ruddiman's Rudiments, Eutropius, or Phædrus' Fables, Cæsar, Sallust, Virgil, Mair's Introduction, Dunbar's Greek Grammar, New Testament, Xenophon.

*Mathematical Department.* Davidson's Arithmetic.

Reid's Chemistry.

## TEXT-BOOKS USED IN THE ENGLISH DEPARTMENT OF THE MADRAS COLLEGE, ST. ANDREWS.

Lennie's A. B. C., Parts First and Second, Lennie's Ladder, Lennie's Sequel to the Ladder, Connel's Young Scholar's Companion, M'Culloch's Introduction to his Course of Reading, Sessional School Collection, M'Culloch's Course of Reading in Sciences, Scott's Beauties of Eminent Writers, History of England, (outlines by a Committee of the Society for Promoting Christian Knowledge,) Campbell's (of Dundee) Collection, Thomson's (Dr. Andrew) Collection, Lennie's English Grammar, Connel's Grammar, Parker's Elements of English Composition.

Illustrations. Darton's Plates of Animals, (coloured,) Small Cabinet of Specimens of Metals, Ores, &c., &c., Arrowsmith's Maps of the Four Quarters of the World (large,) Thomson's Map of the World, Selected Articles of the Penny Magazine.

## TEXT-BOOKS USED AND SUBJECTS TAUGHT IN THE HIGH SCHOOL OF EDINBURGH.

*Latin.* Vocabulary, Sententiæ Selectæ, Aurelius Victor, Corderius, Adams' Grammar, Phædrus, Carson on the Relative, Buchanan's Psalms, Adams' Roman Antiquities, Mythology, Anthologia Latina.

*Greek.* Moor's Grammar, by Tate, Vocabulary, Dalzel's Analecta Minora, Thucydides, Demosthenes, Æschylus.

Roman History, Outlines of Ancient and Modern Geography, Mental Arithmetic, Goldsmith's larger Roman History, Malkin's History of Greece, Specimens of the British Poets, Porteous's Evidences, A Short General View of the Three Kingdoms of Nature. Figures of Rhetoric and Rhetorical Arrangement.

## No. VI.

*Referred to on page* 48.

### FORM OF APPLICATION FOR ADMISSION INTO CAUVIN'S HOSPITAL, EDINBURGH.

*To be lodged with the Factor of the Hospital, on or before the 1st day of April*, 183 .

TO THE GOVERNORS OF CAUVIN'S HOSPITAL:

*Edinburgh*, 183 .

Gentlemen:—As a general meeting of the said governors have resolved to admit into the Hospital or Institution under their management, on or about the day of April next, boys, lawful children, who were born betwixt the day of April, and the day of April, , inclusive; and for that purpose, that each governor, betwixt and the first day of the said month of April, may, if so inclined, recommend to the consideration of the governors one boy, and no more, born betwixt the dates aforesaid, I beg leave to recommend , lawful son of , for admission into the said institution.

In the event of the boy now recommended being admitted into the institution, I shall at all times, when required, transmit to his relations any communication I may receive from the governors, or their factor, regarding him.

The particulars regarding this boy are set forth in the answers to the annexed schedule, and the documents in support of the application are herewith lodged.* And I certify, that the circumstances, in answer to the sixth question annexed, are stated on my own personal knowledge, or from information upon which the governors may rely.

I am, gentlemen,
Your most obedient servant,

*Edinburgh*, 183 .

* It is absolutely necessary that the obligation on the next page shall be signed by a responsible person, and the whole documents lodged with the factor, at the time of giving in the application, as without these it cannot be submitted to the governors.

*Edinburgh*, 183 .

I [here state fully name, designation, and residence,] engage, in the event of the boy now recommended, being admitted into Cauvin's Hospital, to relieve the governors of the boy upon leaving the institution, whether that shall take place upon the lapse of the six years from the date of his admission, or shall, in consequence of the bad health of the boy, or other cause, take place at an earlier period.

## SCHEDULE.

The boys to be admitted into the institution must, in terms of the Will of the founder, be "the sons of respectable, but poor teachers; the sons of poor, but honest farmers; *whom failing*, the sons of respectable master printers or booksellers, and the sons of respectable servants in the agricultural line." They "must be descended of honest, industrious, and well-behaved parents, whose circumstances in life do not enable them suitably to support and educate their children at other schools; and no unhealthy or diseased boy shall, at any time, or on any account, be admitted into the said hospital."

They must, at the period of their admission, be not less than six, nor more than eight years of age.

| Questions. | Answers. |
|---|---|
| 1. The name and date of birth of the boy, per parish register, or other satisfactory evidence. | |
| 2. Names and designations, and whether dead or alive, in so far as known, of the father, mother, paternal grandfather, maternal grandfather. | |
| 3. Present residence of the boy, with whom, and in what parish and county. | |
| 4. Number of brothers and sisters of the boy, under ten years of age. | |
| 5. Certificate by a respectable physician or surgeon, that the boy is in good health, of sound constitution, and free from bodily defect, mental imbecility, or contagious distemper. | |
| 6. Certificate by the minister and two elders of the parish where the boy and his parents reside, as to their character and good behaviour, and the sound state of the boy's health; and that he is of one or other of the classes of persons above mentioned, specifying which class. | |
| 7. Inventory of documents herewith produced. | |

## No. VII.

### TABLES OF DIET.

| Country. | Institution. | Kind of food. | Meal which it is intended for. | Quantity. For each meal. | Quantity. For the day. | Remarks. |
|---|---|---|---|---|---|---|
| SCOTLAND. | Heriot's Hospital. (Edinburgh.) | Oatmeal. | Breakfast. | 8 oz. | | Once a week potato soup, 19.72 oz. potatoes, and 5 oz. of bread, each. |
| | | " | Supper. | 8 oz. | 16 oz. | |
| | | Bread. | L'ch at 11. | 2½ oz. | | |
| | | " | " at 4. | 2½ oz. | | |
| | | | Dinner. | 2½ oz. | 7½ oz. | |
| | | Beef. | Dinner. | 6.22 oz. | 6.22 oz. | Once a week pea soup, (3.66 oz. peas,) and 5 oz. of bread. |
| | | Potatoes. | " | 9.86 oz. | 9.86 oz. | |
| | | Barley. | " | 1.38 oz. | 1.38 oz. | |
| | Edinburgh Orphan-Hospital. | Oatmeal. | Breakfast. | 4 oz. | | |
| | | " | Supper. | 4 oz. | 8 oz. | |
| | | Bread. | Dinner. | 5 oz. | | |
| | | " | L'ch at 4. | 2 oz. | 7 oz. | |
| | | Beef. | Dinner. | 4 oz. | 4 oz. | Beef is given 3 times a week in summer, and 5 times in winter. |
| | | Vegetables of different kinds. | | Not fixed. | Not fixed. | |
| | | Milk. | Morning. | ½ pint. | | |
| | | | Afternoon. | ½ pint. | 1 pint. | |
| ENGLAND. | Blue-coat School. (Liverpool.) | Oatmeal. | Breakfast. | 4 oz. | | Once a week rice with milk, 8 oz. each. |
| | | " | Supper. | 3 oz. | 7 oz. | |
| | | Milk. | Breakfast | ½ pint. | | |
| | | " | Supper. | ½ pint. | ⅝ pint. | On Sunday evening, cheese, 4 oz., beer ½ pint each. |
| | | Meat. (Beef and tripe.) | Dinner. | 6 oz. | 6 oz. | |
| | | Potatoes. | Dinner. | 2 pounds. | 2 pounds. | |
| | | Vegetables. | | Not fixed. | Not fixed. | |
| | | Bread. | Supper, &c | 12½ oz. | 12½ oz. | |
| | London Orphan Asylum. | Oatmeal. | Breakfast. | 2 oz. | 2 oz. | Twice a week barley broth and suet pudding, quantity not fixed. |
| | | Milk. | Breakfast. | ½ pint. | ½ pint. | |
| | | Bread. | Breakfast. | 7 oz. | 7 oz. | |
| | | " | Dinner. | Not fixed. | Not fixed. | |
| | | " | Supper. | 7 oz. | 7 oz. | |
| | | Meat. (Beef and mutton.) | Dinner. | 8 oz. | 8 oz. | Green vegetables occasionally in summer. |
| | | Cheese. | Supper. | 1½ oz. | 1½ oz. | Once a week 300 herrings for 350 pupils. |
| | | Treacle. | " | Not fixed. | Not fixed. | |
| | | Butter. | " | Not fixed. | Not fixed. | |

No. VIII.—(*Referred to on page* 112.)—TABLE of the Hours of Recreation, Rest, Exercise, Study, and School in different Institutions.

| Place. | Institution. | Applies to | Number of Hours. | | | | | | | | | | Years. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Recreation. | Gymnastics, or other regular exercises. | Meals & police. Prayers | Trades. | Sleep. | Study. | Recitation in School. | Bodily exercise and meals. | Rest. | Intellectual exercise. | Age of Pupils. |
| Edinburgh, | Heriot's Hospital, | Winter, Elder boys. | 2½ | 1 | 2½ | 0 | 10 | 1 | 7 | 6 | 10 | 8 | 9 to 14 |
| " | John Watson's Institution, | " All, | 4½ | 0 | 3 | 0 | 10 | † | 6½ | 7½ | 10 | 6½ | 6½ to 14 |
| Liverpool, | Blue-Coat School, | Summer, " | 4 | *1½ | 2½ | 0 | 8½ | 1½ | 5½ | 8½ | 8½ | 7½ | 9 to 14 |
| London, | Orphan Asylum, | " " | 4½ | ½ | 2½ | 0 | 9½ | † | 6½ | 7½ | 9½ | 6½ | 9 to 14 |
| Annaburg, (Prussia.) | Military Orphan-House, | " " | 3½ | 1 | 2½ | 4 | 7 | 2 | 4 | 11 | 7 | 6 | 6 to 14½ |
| Frankfort, (on Maine.) | Orphan-House, | " Elder boys, | 2½ | 1 | 3½ | 2 | 9 | 1 | 5 | 9 | 9 | 6 | 6 to 14½ |
| Halle, | Franke Foundation, | " " | 5§ | 0 | 1½ | 0 | 6½ | 4 | 7 | 6½ | 6½ | 11 | 10 to 15 |
| Hamburgh, | Orphan-House, | " All, | 3 | 2 | 3½ | 0 | 8½ | † | 7 | 8½ | 8½ | 7 | 8 to 14 |
| Prague, | St. John's Orphan-House, | " " | 3½ | 1 | 3 | 0 | 8½ | 4 | 4 | 7½ | 8½ | 8 | 8 to 13½ |
| Struppen, (Saxony.) | School for soldiers' children, | Winter, " | 2½ | 1 | 2½ | 3 | 9 | 2 | 4 | 9 | 9 | 6 | 6 to 14 |
| Ditto. | Ditto, | Summer, " | 4 | 1 | 2½ | 4 | 8 | 0 | 4½ | 11½ | 8 | 4½ | 8 to 17 |
| | *Secondary Schools.* | | | | | | | | | | | | |
| Liverpool, | Mr. Vocleker's School, | Winter, " | 4§ | 0 | 2½ | 0 | 9 | 2½ | 6 | 6½ | 9 | 9½ | 8 to 18 |
| Paris, | College of Louis XIV., | Summer, | 2¼ | 0 | 2¾ | 0 | 8 | 4½ | 6½‖ | 5 | 8 | 11 | 8 to 18 |
| Prussia, | Schulpforta, | Winter, | 1½‖ | 0 | 2 | 0 | 9 | 6½ | 5 | 3½ | 9† | 11½ | 14 to 19 |
| Dresden, | Blochman's Gymnasium, | " | 2½ | 1 | 2½ | 0 | 9 | 3¾ | 5¼ | 6 | 9† | 9 | 10 to 19 |
| | *Normal Schools.* | | | | | | | | | | | | |
| Prussia, | Weissenfels, | " | 1½ | 1 | 1½ | 0 | 7½ | 3½ | 9 | 4 | 7 | 12½ | 16 to 20 |
| " | " | Summer, | 3 | 1 | 1½ | 0 | 7 | 3½ | 8 | 5 | 7 | 11½ | " |
| France, | Dijon, | " | 2 | 0 | 1½ | 0 | 8 | 5 | 7½ | 3½ | 8 | 12½ | 17 to 20 |

* Walking. † In school. ‡ Elder boys, eight hours. § Or regular exercise. ‖ In part voluntary.

In making this table, I have not aimed at rigid exactness in the fractional parts of the hour employed in certain occupations, but believe that they are sufficiently minute for the comparison intended.

| Country. | Institution. | Kind of food. | Meal which it is intended for. | Quantity. | | Remarks. |
|---|---|---|---|---|---|---|
| | | | | For each meal. | For the day. | |
| IRELAND. | Hibernian Soldier's School. (Dublin.) | Oatmeal. | Breakfast. | 4 oz. | 4 oz. | Once a week they get a dish called caleannon. It is composed of equal quantities of potatoes and greens prepared with butter and milk, to be seasoned with leeks and salt. |
| | | Milk. | Breakfast. | ½ pint. | | |
| | | " | Supper. | 1 pint. | 1½ pint. | |
| | | Gruel. | " | Not fixed. | Not fixed. | |
| | | Meat. | | | | |
| | | Beef. | Dinner. | 8 oz. | 8 oz. | |
| | | Vegetables of different kinds. | Dinner. | Not fixed. | Not fixed. | |
| | | Potatoes. | " | 1½ pounds. | 1½ pounds. | |
| | | Bread. | Supper. | 8 oz. | 8 oz. | |
| | Gwynn's Charity. (Londonderry.) | Oatmeal. | Breakfast. | 5 oz. | 5 oz. | Meat is only given on Sundays. |
| | | Milk. | " | ½ quart. | ½ quart. | |
| | | Potatoes. | Dinner. | 3 pounds. | 3 pounds. | |
| | | Meat. | | | | Once a week there is broth with vegetables, and two pounds of potatoes for each. |
| | | Beef. | " | 6 oz. | 6 oz. | |
| | | Buttermilk. | " | 1 pint. | | |
| | | " | Supper. | 1 pint. | 1 quart. | |
| | | Gruel. | " | 4 oz. | 4 oz. | |
| GERMANY. | Orphan House. (Frankfort on the Maine.) | Bread. | Breakfast. | | 1 pound. | Meat is given three times a week. |
| | | " | Supper. | | | |
| | | Meat. | Dinner. | 6 oz. | 6 oz. | |
| | | Vegetables of different kinds. | " | Not fixed. | Not fixed. | |
| | | Porridge. | Supper. | Not fixed. | Not fixed. | On rare occasions, roast meat and wine are given. |
| | | Potatoes. | " | | | |
| | | Butter. | " | | | |
| | | Beer. | Dinner. | Not fixed. | Not fixed. | |
| | Orphan House. (Hamburgh.) | Milk. | Breakfast. | Not fixed. | | Roast meat is given eight times a year. |
| | | " | Supper. | | | |
| | | Bread. | Breakfast. | As much as they require. | | Meat is given three times a week. |
| | | " | Dinner. | | | |
| | | " | Supper. | | | |
| | | Meat. (Beef.) | Dinner. | 4 oz. | 4 oz. | |
| | | Vegetables. | " | Not fixed. | | |
| | Military Orphan House. (Potsdam.) | Bread. | Breakfast. | | 1 pound. | Herring or other fish is given once a week for dinner. |
| | | " | Dinner. | | | |
| | | " | Supper. | | | |
| | | Meat. (Beef, tripe, sausage.) | Dinner. | 5 oz. | 5 oz. | |
| | | Vegetables. | " | Not fixed. | | |
| | | Flour gruel. | Supper. | Not fixed. | | |

connected with '*pastures.*' Now, children, what is the meaning of the word shepherd? *Takes care of sheep.* The shepherd takes care of...*sheep.* Can you tell me what a herd means? *A boy.* No doubt, herds are very frequently, perhaps most frequently, boys, but could not a girl be a herd as well as a boy? *Yes.* What is meant by a herd? The children are silent. *Suppose a boy or girl or a man took care of cows or cattle, what would he be called? Would he be called a shepherd? No.* A man that herded cattle would be called a cattle...*herd.* A shepherd, therefore, is one who takes care of...*sheep.* Now, children, can *you* tell me what pasture means? *No.* You don't know. Well, *suppose you took* a walk into the country, and saw a field with sheep or cows feeding in it, what would they be eating? *Grass.* What, then, do you think pasture means? *Grass.* What colour is grass? *It is green.* What kind of pasture does the Psalmist say the shepherd leads his sheep to lie down in? He *maketh them to lie down in* green...*pastures.* Is grass always green, think you, children? *Yes. Did you* ever see grass any other colour than green? *No. You never saw grass any* other colour than green? *No.* But, *suppose, during a hot summer, when the* sun is shining very bright for a long time, perhaps for six or eight weeks at a time, and no rain, what colour do you think the *grass would be? Brown.* Then grass is not always green? *No, sir.* It sometimes is...*brown.* Whether do you think that sheep would like to eat green...*grass*, which is full of...*sap*, or brown ...*grass*, that is very...*dry? Green grass.* Then *you* think that a *good shepherd* will make his sheep to lie down in the *green pastures or green...grass*, in preference to where there is brown, dry...*grass? Yes. Do you think, children,* that the shepherd here spoken of will take them to a field where there will be plenty or scarcity to eat? Let me make it a little *plainer.* The shepherd is said to make his sheep to lie down in green...*pastures.* If they had little to eat do you think that the sheep would lie down there? *No, they would run about seeking grass.* Then, you think, they will have plenty when they are made to lie down in it? *Yes.* They 'shall not...*want.*'" * * * * * *

## No. X.

*Referred to on page 168.*

### "READING DISENTANGLED," OR METHOD OF TEACHING TO READ USED IN THE LONDON INFANT SCHOOL SOCIETY'S MODEL SCHOOL.

The method of teaching to read, which is strongly *recommended*, after trial in this school, is an attempt to apply the *phonic* method of the German *schools to* our language, so irregular in the sounds of the letters, and in their combinations into syllables and words. The *consonants* are taught first to be named by the sound most like that in combination, and, besides, are classified into families. Pictures of objects, the names of which begin with the different consonants, are used to impress them upon the child's memory. Next, the *shapes* of the consonants are given, and so described as to reveal them by association, the large and small printed letters being taught separately. The children are next taught to

## No. IX.

### BIBLE LESSONS AT THE MODEL INFANT SCHOOL OF THE GLASGOW EDUCATION SOCIETY.

*Referred to on page* 160.

The plan of the Bible lesson is thus sketched by Mr. Stow:

"After a short paragraph is read, the children ought to be exercised, first on the meaning of every word or term in the particular passage; next on the leading points, and afterwards on the moral lesson which is naturally deducible from it. If the premises are well laid and understood, the children themselves will generally give the lesson.

"The general plan pursued is not to tell or inform the pupils of any thing, which by analysis, comparison, or illustration they can be made to find out for themselves; in other words, they are trained, rather than taught, to think."

* * * * * * *

"Pictures ought to be used whenever practicable, and the whole resources of natural science brought to assist the elucidation of Scripture; each point ought to be made as plain and vivid to the mind of the child as in a picture. Important associations and moral and religious lessons also to the young may be given from them. We have for the naturalist, THE LION, Daniel in the lion's den, Lion of the tribe of Judah. The lamb, and the promises regarding the lion and the lamb, lying down in peace together. The serpent, *deceitfulness*. The leopard and tiger, *cruelty, yet pretty skin*. A dog to his vomit, and a sow that is washed to her wallowing in the mire, *bad habits*. The bee, *industry*; with lessons from a thousand other animate and inanimate objects. Sometimes they are conjoined in one illustration—'As the hart panteth after the water-brooks, so panteth,' &c. We have here the nature and situation of the hart—the water-brooks—the climate—the heat—the dust—the distant brooks—the panting. What is panting? Why pant, &c. Pant is . . . The botanist, the astronomer, the mineralogist, the moralist, may each exercise their powers of illustration respectively, on 'the lily of the valley,' 'rose of Sharon,' 'sun standing still at the bidding of Joshua,' 'Orion,' 'Pleiades,' and the 'morning star,' 'precious stones of the temple,' 'the pearl of great price,' 'Jonathan's love for David his rival,' 'Absalom's vanity, beautiful hair, and the cause of his death.'"

As an example of the illustration of these principles, the following extract may suffice. The lesson is upon the one hundredth and fiftieth Psalm.

"*Verse* 1. 'The Lord is my shepherd, I shall not want.' *Verse* 2. 'He maketh me to lie down in green pastures, he leadeth me beside the still waters.' We shall take some of the principal words, and see if you can tell me their meaning. 'Lord,' is the first word; but, as our limits permit us to give an example of only one or two words, or, at most, of the two first verses of this Psalm, we shall take the second word, which is more immediately

connected with '*pastures*.' Now, children, what is the meaning of the word shepherd? *Takes care of sheep.* The shepherd takes care of...*sheep.* Can you tell me what a herd means? *A boy.* No doubt, herds are very frequently, perhaps most frequently, boys, but could not a girl be a herd as well as a boy? *Yes.* What is meant by a herd? The children are silent. Suppose a boy or girl or a man took care of cows or cattle, what would he be called? Would he be called a shepherd? *No.* A man that herded cattle would be called a cattle...*herd.* A shepherd, therefore, is one who takes care of...*sheep.* Now, children, can you tell me what pasture means? *No.* You don't know. Well, suppose you took a walk into the country, and saw a field with sheep or cows feeding in it, what would they be eating? *Grass.* What, then, do you think pasture means? *Grass.* What colour is grass? *It is green.* What kind of pasture does the Psalmist say the shepherd leads his sheep to lie down in? He maketh them to lie down in green...*pastures.* Is grass always green, think you, children? *Yes.* Did you ever see grass any other colour than green? *No.* You never saw grass any other colour than green? *No.* But, suppose, during a hot summer, when the sun is shining very bright for a long time, perhaps for six or eight weeks at a time, and no rain, what colour do you think the grass would be? *Brown.* Then grass is not always green? *No, sir.* It sometimes is...*brown.* Whether do you think that sheep would like to eat green...*grass*, which is full of...*sap*, or brown ...*grass*, that is very...*dry*? *Green grass.* Then you think that a good shepherd will make his sheep to lie down in the green pastures or green...*grass*, in preference to where there is brown, dry...*grass*? *Yes.* Do you think, children, that the shepherd here spoken of will take them to a field where there will be plenty or scarcity to eat? Let me make it a little plainer. The shepherd is said to make his sheep to lie down in green...*pastures.* If they had little to eat do you think that the sheep would lie down there? *No, they would run about seeking grass.* Then, you think, they will have plenty when they are made to lie down in it? *Yes.* They 'shall not...*want*.'" * * * * * *

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The method of teaching to read, which is strongly recommended, after trial in this school, is an attempt to apply the phonic method of the German schools to our language, so irregular in the sounds of the letters, and in their combinations into syllables and words. The consonants are taught first to be named by the sound most like that in combination, and, besides, are classified into families. Pictures of objects, the names of which begin with the different consonants, are used to impress them upon the child's memory. Next, the shapes of the consonants are given, and so described as to recal them by association, the large and small printed letters being taught separately. The children are next taught to

form words, by putting the consonants before the vowels, beginning with the short sound of *a*. Next, before syllables beginning with the short sounds of *e*, *i*, *o*, *u*, and *y*, when replacing *i*, with exercises upon the sound of vowels indiscriminately. The short sound in syllables followed by *r*. The placing of *s* at the end of words. More than one consonant before a vowel. Silent letters. The syllables *th* and *qu*. Words ending with two consonants. The final syllables, *ble*, &c. Words ending with *ng*. The sound of *ch*. Long vowels followed by a consonant. Long vowels followed by *r*. The diphthongs *ou* and *au*. Soft sound of *e*. Diphthongs of *ow* and *oy*, and soft sound of *g*. Diphthong *ei*. Sound of *a* after *u*, and some irregular words. Diphthong *eu*, and some irregular words.

## No. XI.

*Referred to on page* 307.

### REMARKS OF M. EMANUEL DE FELLENBERG, ON EDUCATION, VERIFIED BY HIS OBSERVATIONS AT HOFWYL.

"On the reception of a new pupil, our first object is to obtain an accurate knowledge of his individual character, with all its resources and defects, in order to aid in its farther development, according to the apparent intention of the Creator. To this end, the individual independent activity of the pupil is of much greater importance than the ordinary, busy officiousness of many who assume the office of educators and teachers. They too often render the child a mere magazine of knowledge, collected by means purely mechanical, which furnishes him neither direction nor aid in the business of life. The more ill-digested knowledge a man thus collects, the more oppressive will be the burden to its possessor, and the more painful his helplessness. Instead of pursuing this course, we endeavour, by bestowing the utmost care upon the cultivation of the conscience, the understanding, and the judgment, to light up a torch in the mind of every pupil, which shall enable him to observe his own character, and shall set in the clearest light all the exterior objects which claim his attention.

"A great variety of exercises of the body and the senses are employed to prepare our pupils for the fulfilment of their destination. It is by means of such exercises that every man should acquire a knowledge of his physical strength, and attain confidence with regard to those efforts of which he is capable, instead of that fool-hardiness which endangers the existence of many who have not learned to estimate their own powers correctly.

"All the various relations of space should be presented to the eye, to be observed and combined in the manner best adapted to form the coup d'œil. Instruction in design renders us important service in this respect—every one should thus attain the power of reproducing the forms he has observed, and of delineating them with facility, and should learn to discover the beauty of forms, and to distinguish them from their contrasts. It is only where the talent is remarkable that the attempt should be made to render the pupil an artist.

"The cultivation of the ear by means of vocal and instrumental music is not less important to complete the development of the human being. The organs of speech, the memory, the understanding, and the taste, should be formed in the same manner by instruction, and a great variety of exercises in language, vocal music, and declamation. The same means should also be employed to cultivate and confirm devotional feelings.

"In the study of natural history the power of observation is developed in reference to natural objects. In the history of mankind the same faculty is employed upon the phenomena of human nature and human relations, and the moral taste is cultivated, at the same time the faculty of conceiving with correctness, and of employing and combining with readiness, the materials collected by the mind, and especially the reasoning faculty, should be brought into exercise, by means of forms and numbers, exhibited in their multiplied and varied relations.

"The social life of our pupils contributes materially to the formation of their moral character. The principles developed in their experience of practical life among themselves, which gradually extends with their age and the progress of their minds, serves as the basis of this branch of education. It presents the examples and occasions necessary for exhibiting and illustrating the great principles of morals. According to the example of Divine Providence, we watch over this little world in which our pupils live and act, with an ever vigilant, but often invisible care, and constantly endeavour to render it more pure and noble.

"At the same time that the various improvements of science and art are applied to the benefit of our pupils, their sound religious education should be continually kept in view in every branch of study; this is also the object of a distinct series of lessons, which generally continue through the whole course of instruction, and whose influence is aided by the requisite exercises of devotion.

"By the combination of means I have described, we succeed in directing our pupils to the best methods of pursuing their studies independently; we occupy their attention, according to their individual necessities and capacities, with philology, the ancient and modern languages, the mathematics, and their various modes of application, and a course of historical studies, comprising geography, statistics, and political economy."*

*Moral Education.*† The example of the instructor is all important in moral education. The books which are put into the pupils hands are of great influence. The pupil must be constantly surrounded with stimulants to good actions in order to form his habits. A new institution should be begun with so small a number of pupils, that no one of them can escape the observation of the educator and his moral influence. The general opinion of the pupils is of high importance, and hence should be carefully directed. Intimate intercourse between pupils and their educators begets confidence, and is the strongest means of moral education. The

* Extract from a published letter of M. de Fellenberg to Lady Byron.

† The remarks in this and the succeeding sections are abstracts from the account of Hofwyl, by our countryman W. C. Woodbridge, or from Conversations with M. de Fellenberg.

educator must be able to command himself—his conduct must be firm and just; frequent reproofs from such are more painful to the pupil than punishment of a momentary sort.

While influences tending directly to lead the pupil astray should be removed from the school, he must be left to the action of the ordinary circumstances of life, that his character may be developed accordingly. The pupil should be led as far as possible to correct his faults by perceiving the consequences of them; the good or bad opinion of his preceptor and comrades are important means of stimulation. Exclusion from amusements, public notice of faults,* and corporal punishment, are all admissible. Solitary confinement is efficacious as a punishment. Rewards and emulation are unnecessary as motives.

Religion and morality are too intimately connected to admit of separation in the courses inculcating them. The elementary part of such a course is equally applicable to all sects.

No good is to be derived from employing the pupils as judges or juries, or giving them a direct share in awarding punishment for offences. It is apt to elevate the youth too much in his own conceit.

Family life is better adapted, than any artificial state of society within an institution, to develope the moral sentiments and feelings of youth.

*Intellectual Education.* A system of prizes, or emulation, and the fear of punishment, do not afford the strongest motives to intellectual exertion. Experience shows that places in a class may be dispensed with. It is possible to develope a taste for knowledge, a respect and attachment for teachers, and a sense of duty which will take the place of any lower motive in inducing the requisite amount of study.

In the higher departments of instruction it is better to confine the task of the teacher to giving instruction merely, placing the pupil under the charge of a special *educator*, at times when he is not engaged in the class-room.

With the other, and more usual branches of instruction, correct ideas of natural history and phenomena should be communicated to children, and require, first, that they shall be duly trained to observation by calling the observing faculties into frequent exercise. Second, that they shall be made acquainted with the elements of natural history, especially in reference to familiar objects. Third, that the most familiar phenomena of nature, such as thunder and lightning, the rainbow, &c.; and further, the most simple principles of mechanic arts, trades, &c., should be explained to them. Fourth, they should be taught to draw, in connexion with the other instruction. Accuracy of conception is favoured by drawing, and it is a powerful aid to the memory. The most important principles of physiology, and their application to the preservation of health, should form a part of the instruction.

*Physical Education.* Pure air, a suitable diet, regular exercise and repose, and a proper distribution of time, are the principal means of physical education. It

* This, however, violates another principle, which is to allow no punishment of a humiliating sort.

is as essential that a pupil leave his studies during the time appropriated to relaxation as that he study during the hours devoted to that purpose. Voluntary exercise is to be encouraged by providing suitable games, by affording opportunities for gardening, and by excursions, and by bathing. Regular gymnastic exercises should be insisted on as the means of developing the body; a healthy action of the bodily frame has an important influence on both mind and morals. Music is to be considered as a branch of physical education, having powerful moral influences. The succession of study, labour, musical instruction, or play, should be carefully attended to. The hours of sleep should be regulated by the age of the pupil.

## No. XII.

*Referred to on page* 400 *of this Report.*

## REMARKS OF THE REV. DR. ARNOLD, ON THE STUDY OF CLASSICS AND OF HISTORY.*

"It may freely be confessed that the first origin of classical education affords in itself no reasons for its being continued now. When Latin and Greek were almost the only written languages of civilized man, it is manifest that they must have furnished the subjects of all liberal education. The question therefore is wholly changed, since the growth of a complete literature in other languages; since France, and Italy, and Germany, and England, have each produced their philosophers, their poets, and their historians, worthy to be placed on the same level with those of Greece and Rome.

"But although there is not the *same* reason now which existed three or four centuries ago for the study of Greek and Roman literature, yet there is another no less substantial. Expel Greek and Latin from your schools,† and you confine the views of the existing generation to themselves and their immediate predecessors: you will cut off so many centuries of the world's experience, and place us in the same state as if the human race had first come into existence in the year 1500. For it is nothing to say that a few learned individuals might still study classical literature; the effect produced on the public mind would be no greater than that which has resulted from the labours of our oriental scholars; it would not spread beyond themselves, and men in general, after a few generations, would know as little of Greece and Rome as they do actually of China and Hindostan. But such an ignorance would be incalculably more to be regretted. With the Asiatic mind we have no nearer connexion or sympathy than that which is derived from our common humanity. But the mind of the Greek and of the Roman is in all the essential points of its constitution our own; and not only so, but it is our own mind developed to an extraordinary degree of perfection. Wide as is the difference between us with respect to those physical instruments which minister to our uses or our pleasures; although the Greeks and Romans had no

* From the London Journal of Education, Vol. VII.

† Of course the secondary schools are here alluded to. (A. D. B.)

steam-engines, no printing-presses, no mariner's compass, no telescopes, no microscopes, no gunpowder, yet in our moral and political views, in those matters which most determine human character, there is a perfect resemblance in these respects. Aristotle, and Plato, and Thucydides, and Cicero, and Tacitus, are most untruly called ancient writers; they are virtually our own countrymen and contemporaries, but have the advantage which is enjoyed by intelligent travellers, that their observation has been exercised in a field out of the reach of common men; and that having thus seen in a manner with our eyes what we cannot see for ourselves, their conclusions are such as bear upon our own circumstances, while their information has all the charm of novelty, and all the value of a mass of new and pertinent facts, illustrative of the great science of the nature of civilized man.

"Now when it is said, that men in manhood so often throw their Greek and Latin aside, and that this very fact shows the uselessness of their early studies, it is much more true to say that it shows how completely the literature of Greece and Rome would be forgotten if our system of education did not keep up the knowledge of it. But it by no means shows that system to be useless, unless it followed, that when a man laid aside his Greek and Latin books he forgot also all that he had ever gained from them. This, however, is so far from being the case, that even where the results of a classical education are least tangible, and least appreciated, even by the individual himself, still the mind often retains much of the effect of its early studies in the general liberality of its tastes and comparative comprehensiveness of its views and notions.

"All this supposes, indeed, that classical instruction should be sensibly conducted; it requires that a classical teacher should be fully acquainted with modern history and modern literature, no less than with those of Greece and Rome. What is, or perhaps what used to be, called a mere scholar, cannot possibly communicate to his pupils the main advantages of a classical education. The knowledge of the past is valuable, because without it our knowledge of the present and of the future must be scanty; but if the knowledge of the past be confined wholly to itself, if, instead of being made to bear upon things around us, it be totally isolated from them, and so disguised by vagueness and misapprehension as to appear incapable of illustrating them, then indeed it becomes little better than laborious trifling, and they who declaim against it may be fully forgiven.

"To select one instance of this perversion, what can be more absurd than the practice of what is called construing Greek and Latin, continued as it often is even with pupils of an advanced age? The study of Greek and Latin, considered as mere languages, is of importance, mainly as it enables us to understand and employ well that language in which we commonly think, and speak, and write. It does this because Greek and Latin are specimens of language at once highly perfect and incapable of being understood without long and minute attention: the study of them, therefore, naturally involves that of the general principles of grammar: while their peculiar excellences illustrate the points which render language clear, and forcible, and beautiful. But our *application* of this general knowledge must naturally be to our own language; to show us what are

its peculiarities, what its beauties, what its defects; to teach us by the patterns or the analogies offered by other languages, how the effect which we admire in them may be produced with a somewhat different instrument. Every lesson in Greek or Latin may and ought to be made a lesson in English; the translation of every sentence in Demosthenes or Tacitus is properly an exercise in extemporaneous English composition; a problem, how to express with equal brevity, clearness, and force, in our own language, the thought which the original author has so admirably expressed in his. But the system of construing, far from assisting, is positively injurious to our knowledge and use of English; it accustoms us to a tame and involved arrangement of our words, and to the substitution of foreign idioms in the place of such as are national; it obliges us to caricature every sentence that we render, by turning what is, in its original dress, beautiful and natural, into something which is neither Greek nor English, stiff, obscure, and flat, exemplifying all the faults incident to language, and excluding every excellence.

"The exercise of translation, on the other hand, meaning, by translation, the expressing of *an entire sentence* of a foreign language by an entire sentence of our own, as opposed to the rendering separately into English either every separate word, or at most only *parts of the sentence*, whether larger or smaller, the exercise of translation is capable of furnishing improvement to students of every age, according to the measure of their abilities and knowledge."

* * * * * * *

"This favourite notion of filling boys with useful information is likely, we think, to be productive of some mischief. It is a caricature of the principles of inductive philosophy, which, while it taught the importance of a knowledge of facts, never imagined that this knowledge was of itself equivalent to wisdom. Now it is not so much our object to give boys 'useful information,' as to facilitate their gaining it hereafter for themselves, and to enable them to turn it to account when gained. The first is to be effected by supplying them on any subject with a skeleton which they may fill up hereafter. For instance, a real knowledge of history in after life is highly desirable; let us see how education can best facilitate the gaining of it. It should begin by impressing on a boy's mind the names of the greatest men of different periods, and by giving him a notion of their order in point of time, and the part of the earth on which they lived. This is best done by a set of pictures bound up together in a volume, such, for instance, as those which illustrated Mrs. Trimmer's little histories, and to which the writer of this article is glad to acknowledge his own early obligations. Nor could better service be rendered to the cause of historical instruction than by publishing a volume of prints of universal history, accompanied with a very short description of each. Correctness of costume in such prints, or good taste in the drawing, however desirable, if they can be easily obtained, are of very subordinate importance: the great matter is that the print should be striking, and full enough to excite and to gratify curiosity. By these means a lasting association is obtained with the greatest names in history, and the most remarkable actions of their lives: while their chronological arrangement is learnt at the same time from the order of the pictures; a boy's memory being very apt to recollect the

place which a favourite print holds in a volume, whether it comes towards the beginning, middle, or end, what picture comes before it, and what follows it. Such pictures should contain as much as possible the poetry of history: the most striking characters, and most heroic actions, whether of doing or of suffering; but they should not embarrass themselves with its philosophy, with the causes of revolutions, the progress of society, or the merits of great political questions. Their use is of another kind, to make some great name, and great action of every period, familiar to the mind; that so in taking up any more detailed history or biography, (and education should never forget the importance of preparing a boy to derive benefit from his accidental reading,) he may have some association with the subject of it, and may not feel himself to be on ground wholly unknown to him. He may thus be led to open volumes into which he would otherwise have never thought of looking: he need not read them through—indeed, it is sad folly to require either man or boy to read through every book they look at, but he will see what is said about such and such persons or actions; and then he will learn by the way something about other persons and other actions, and will have his stock of associations increased, so as to render more and more information acceptable to him.

"After this foundation, the object still being rather to create an appetite for knowledge than to satisfy it, it would be desirable to furnish a boy with histories of one or two particular countries, Greece, Rome, and England for instance, written at no great length, and these also written poetically much more than philosophically, with much liveliness of style, and force of painting, so as to excite an interest about the persons and things spoken of. The absence of all instruction in politics or political economy, nay, even an absolute erroneousness of judgment on such matters, provided always that it involves no wrong principle in morality, are comparatively of slight importance. Let the boy gain, if possible, a strong appetite for knowledge to begin with; it is a later part of education which should enable him to pursue it sensibly, and to make it, when obtained, wisdom."

* * * * * * *

"Supposing a boy to possess that outline of general history which his prints and his abridgments will have given him, with his associations, so far as they go, strong and lively, and his desire of increased knowledge keen, the next thing to be done is to set him to read some first-rate historian, whose mind was formed in, and bears the stamp of some period of advanced civilization, analogous to that in which we now live. In other words, he should read Thucydides, or Tacitus, or any writer equal to them, if such can be found, belonging to the third period of full civilization, that of modern Europe since the middle ages. The particular subject of the history is of little moment, so long as it be taken neither from the barbarian, nor from the romantic, but from the philosophical or civilized stage of human society; and so long as the writer be a man of commanding mind, who has fully imbibed the influences of his age, yet without bearing its exclusive impress. And the study of such a work, under an intelligent teacher, becomes indeed the key of knowledge and of w[illegible]t affords an example of good historical evidence, and hence the [illegible]ht to notice, from time to

time, the various criteria of a credible narrative, and, by the rule of contraries, to observe what are the indications of a testimony questionable, suspicious, or worthless. Undue scepticism may be repressed by showing how generally truth has been attained when it has been honestly and judiciously sought; while credulity may be checked by pointing out, on the other hand, how manifold are the errors into which those are betrayed whose intellect or whose principles have been found wanting. Now, too, the time is come when the pupil may be introduced to that high philosophy which unfolds 'the causes of things.' The history with which he is engaged presents a view of society in its most advanced state, when the human mind is highly developed, and the various crises which affect the growth of the political fabric are all overpast. Let him be taught to analyze the subject thus presented to him; to trace back institutions, civil and religious, to their origin; to explore the elements of the national character, as now exhibited in maturity, in the vicissitudes of the nation's fortune, and the moral and physical qualities of its race; to observe how the morals and the mind of the people have been subject to a succession of influences, some accidental, others regular; to see and remember what critical seasons of improvement have been neglected, what besetting evils have been wantonly aggravated by wickedness or folly. In short, the pupil may be furnished, as it were, with certain formulæ, which shall enable him to read all history beneficially; which shall teach him what to look for in it, how to judge of it, and how to apply it.

"Education will thus fulfil its great business, as far as regards the intellect, to inspire it with a desire of knowledge, and to furnish it with power to obtain and to profit by what it seeks for."*

## No. XIII.

### ORPHAN STATISTICS.

By the instructions of the Scholastic Committee,† I was directed to collect all the information possible in regard to the proportion, in number, of orphans to the rest of the community. On this subject I found it impossible to obtain satisfactory data, except in a few cases. Even where statistical inquiries have been pursued with considerable minuteness, this subject does not appear to have formed a part of them. The information which I have to present is too meagre to permit any general inferences, other than that the proportion of destitute orphan children to the rest of the community, is exceedingly variable in different countries, and even in different districts of the same country.

The orphan establishment of the duchy of Saxe-Weimar is administered as a branch of the government, and the details in regard to it are known with great minuteness. The report of this department‡ for 1837, shows that there were 423

* It would be most desirable that a series of text-books should be prepared according to this plan, which is as successful in practice as consonant with sound theory. (A. D. B.)

† See p. vi. of the Preface to this Report.

‡ For which I am indebted to the director, Dr. Kohler.

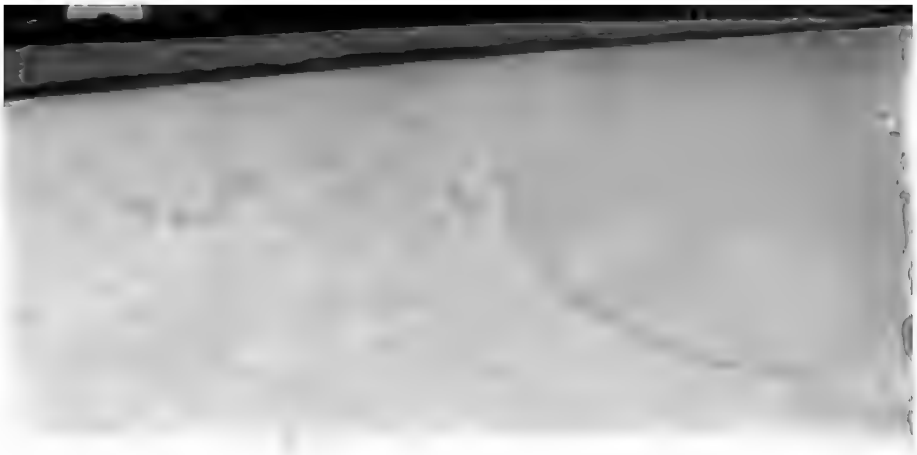
orphan children between the ages of about six and fourteen years, receiving aid. Under this title are included children who have lost both parents, or who have lost their father, the mother remaining a widow, and children deserted by their fathers. Of the total number, 211 were orphan boys, 206 girls, and 6 were children deserted by their fathers. Of the 211 boys, 166 were fatherless, and 45 had lost both parents; and of the 206 girls, 164 were fatherless, and 42 had lost both parents. The population of the duchy of Saxe-Weimar was, in 1837, about 250,000, so that the destitute orphans of both sexes formed about .17 per cent. of the population, and the destitute orphan boys about .086 per cent. At the same time, the number of orphans receiving aid in the town of Weimar was 33, which, in a population of 12,000, was .275 per cent., or more than once and a-half the proportion for the duchy at large.

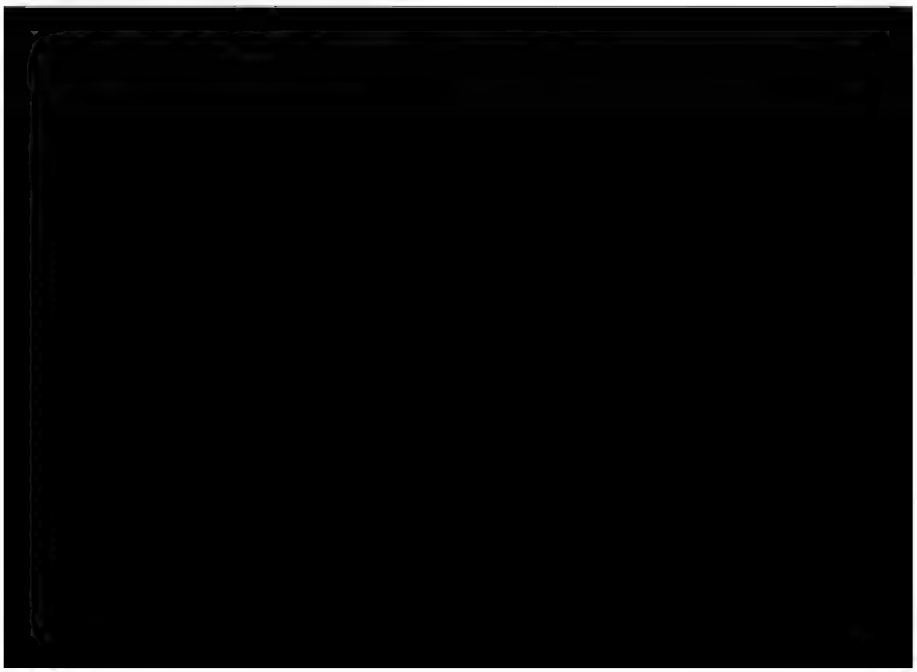
The statistics coming next to these in point of minuteness, which I was able to procure, are from the canton of Zurich, in Switzerland.* These give, in 1836, for 231,574 inhabitants, 3,731 orphans of both sexes, the term orphan being understood as in Weimar, and the census including children from infancy to about sixteen years of age. The city of Zurich, with a population of 14,243, had, at the same time, 229 orphans. Thus the country communes, with a population of 217,331, gave assistance to 2,636 orphan children, or 1.21 per cent., and the city of Zurich to 141, or .99 per cent. I have not the means of computing exactly the number of orphans below five years and over fourteen, included in this estimate, so as to compare it with the statement for the duchy of Saxe-Weimar, but adopting an approximate estimate, the number of destitute orphans in the canton of Zurich to every one hundred inhabitants, appears to be between four and five times as great as the number, between the same years, in the duchy of Weimar.

The director of the Orphan-house at Stuttgard gave me 1600, as the number of orphan children to be provided for in Wurtemberg, from six years up to fourteen or fifteen. This number gives, in the whole population of 1,400,000, almost .115 per cent. This proportion is somewhat lower than that for Weimar.

In the absence of more correct data, I endeavoured to obtain the probable number of destitute orphan boys in Edinburgh, by summing up the numbers in the different hospitals and the Charity Work-house. Edinburgh is so well provided with educational charities, nearly all of which give a preference, in their admissions, to orphans, that it is not at all probable that many destitute orphan children are without this pale. The summation of the numbers obtained, as above stated, gives 272 for the number of male orphans supported by the public, using the word orphan in the same sense as hitherto, and the age being between six and fifteen years. The population of Edinburgh is about 176,000, which would give nearly .155 per cent. as the number of orphan boys supported in the charitable establishments of the city. The corresponding proportion for the town of Weimar is .137 per cent., and for the town of Zurich, .495 per cent.

* Kindly furnished to me by Burgomaster Hess.





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